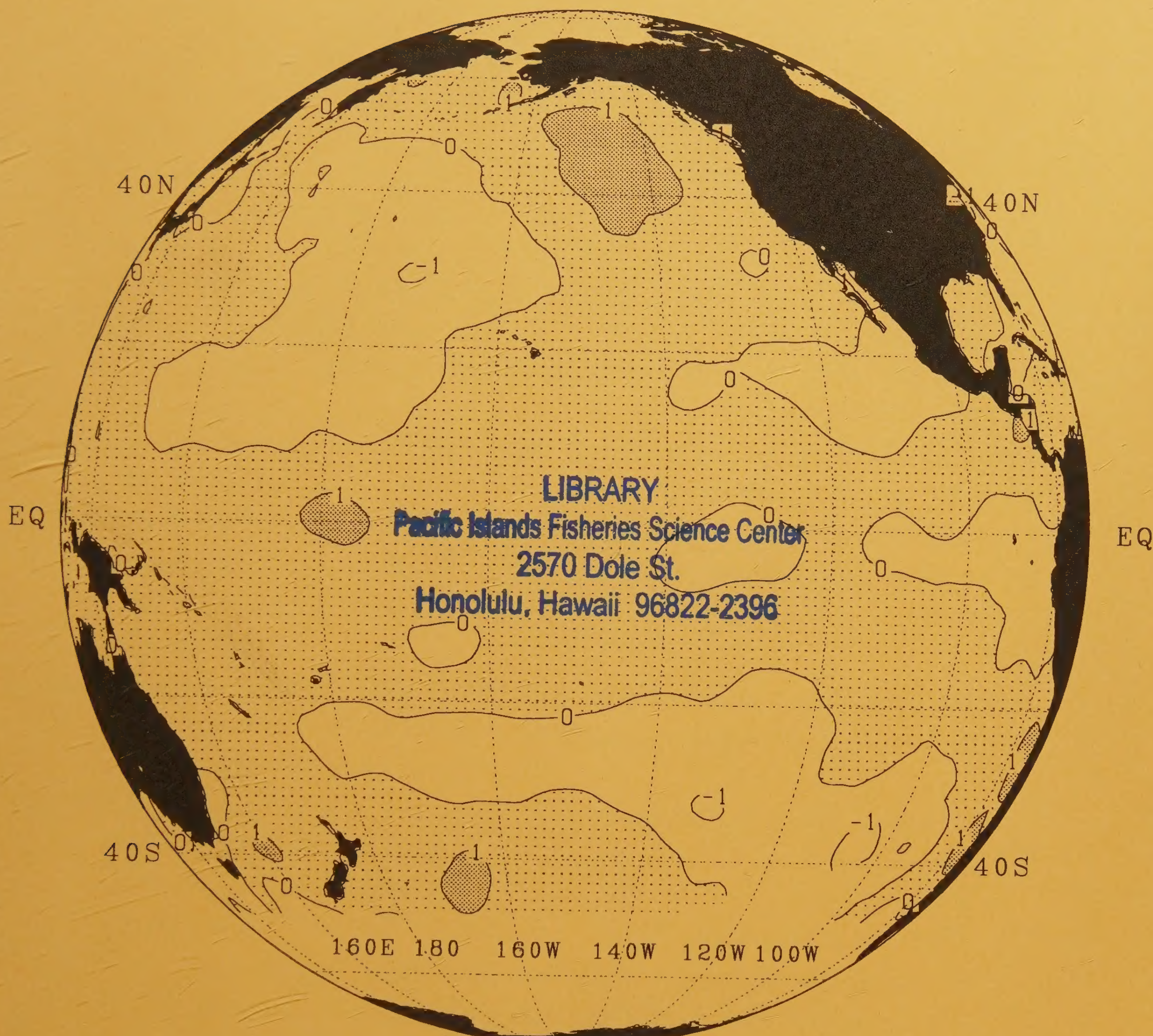
ISSN 1348-5059

気象庁海洋月報

Monthly Ocean Report
March 2005 (No. 147)



Climate and Marine Department
Japan Meteorological Agency

気象庁 気候・海洋気象部

平成17年3月

気象庁海洋月報は、気象庁 気候・海洋気象部 海洋気象情報室で作成しています。
本月報に関する問い合わせは、
〒100-8122 東京都千代田区大手町１-３-４ 気象庁 気候・海洋気象部 海洋気象情報室まで。
電 話 (03) 3212-8341 (内線 5127、5166)
ＦＡＸ (03) 3211-3047
電子メール ocean@climar.kishou.go.jp

Monthly Ocean Report is prepared by the Office of Marine Prediction, Climate and Marine Department, Japan Meteorological Agency.

Correspondence relating to this report may be directed to :

Masashi Nagata
Head, Office of Marine Prediction
Climate and Marine Department, Japan Meteorological Agency
1-3-4 Ote-machi, Chiyoda-ku, Tokyo 100-8122 Japan
Facsimile: +81-3-3211-3047
e-mail : ocean@climar.kishou.go.jp

表紙は、2005 年 3 月の太平洋の月平均海面水温偏差図です。
陰影部は、平年より高温の海域を示しています。

The figure on the front cover shows the monthly mean SST anomalies for March 2005 in the Pacific Ocean.
Areas of positive anomalies are shaded.

目　次

---

*　MGDSST (Merged satellite and *in-situ* data Global Daily SST)を使用している。
**　従来と同様の、現場観測による海面水温をもとにした解析値を使用している。

Table of Contents

* Based on MGDSST (Merged satellite and *in-situ* data Global Daily SST).
** Based on the traditional analysis using *in-situ* SSTs.

海況の特徴（２００５年３月）

日本近海の海況

海面水温は、常磐沖と沿海州南部沖で平年より1℃以上低かった。深さ100mで5℃以下の親潮系冷水の沿岸寄りの分枝は、福島県沖まで達していた（第４図、第６図）。

黒潮は、紀伊半島から東海沖を大きく蛇行し、31° N付近まで南下していた。その後、伊豆諸島の西を北上し、三宅島付近を通過して、房総半島沖を北東に流れていた（第９図）。

太平洋の海況

太平洋赤道域の海面水温は、日付変更線付近で+1℃を超える正偏差が見られた。一方、95° Wから85° Wにかけて-0.5℃を超える負偏差が見られた。

北太平洋の海面水温は、30° N, 170° W付近を中心に負偏差が広がっていた。一方、35° Nから55° Nの155° Wから135° Wにかけての海域で+1℃を超える正偏差が見られた（第１７図）。

Highlights March 2005

Seas adjacent to Japan

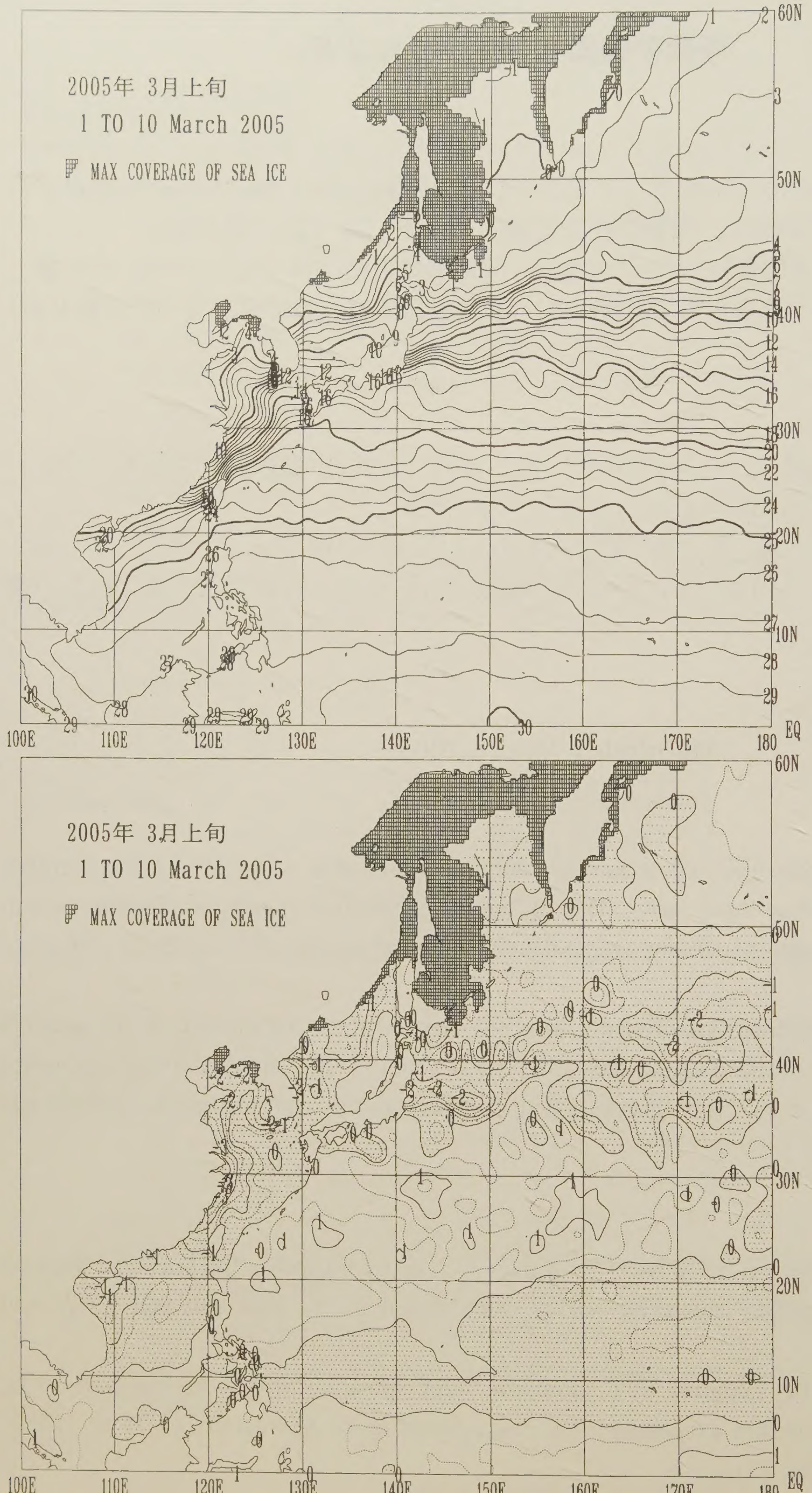
SSTs were more than 1℃ below normal in the seas off Joban and south off the southern coast of the Russian Maritime Provinces. The coastal branch of the Oyashio cold water, which was less than 5℃ at the depth of 100 meters, extended southward up to off Fukushima prefecture (Fig. 4, Fig. 6).

The Kuroshio meandered significantly from the area off the Kii Peninsula to the area off Tokai. The southernmost position of the meander was at about 31°N. After flowing northward west of the Izu Islands, it passed near Miyake Island and flowed NE-ward off the Boso Peninsula (Fig. 9).

Pacific Ocean

In the equatorial Pacific, SSTs were more than 1℃ above normal in the seas near the date line. Negative SST anomalies exceeding –0.5℃ were found in the seas between 95°W and 85°W.

In the North Pacific, negative SST anomalies were spreading in the seas around 30°N, 170°W. Positive SST anomalies exceeding +1℃ were found in the seas from 155°W to 135°W between 35°N and 55°N (Fig. 17).



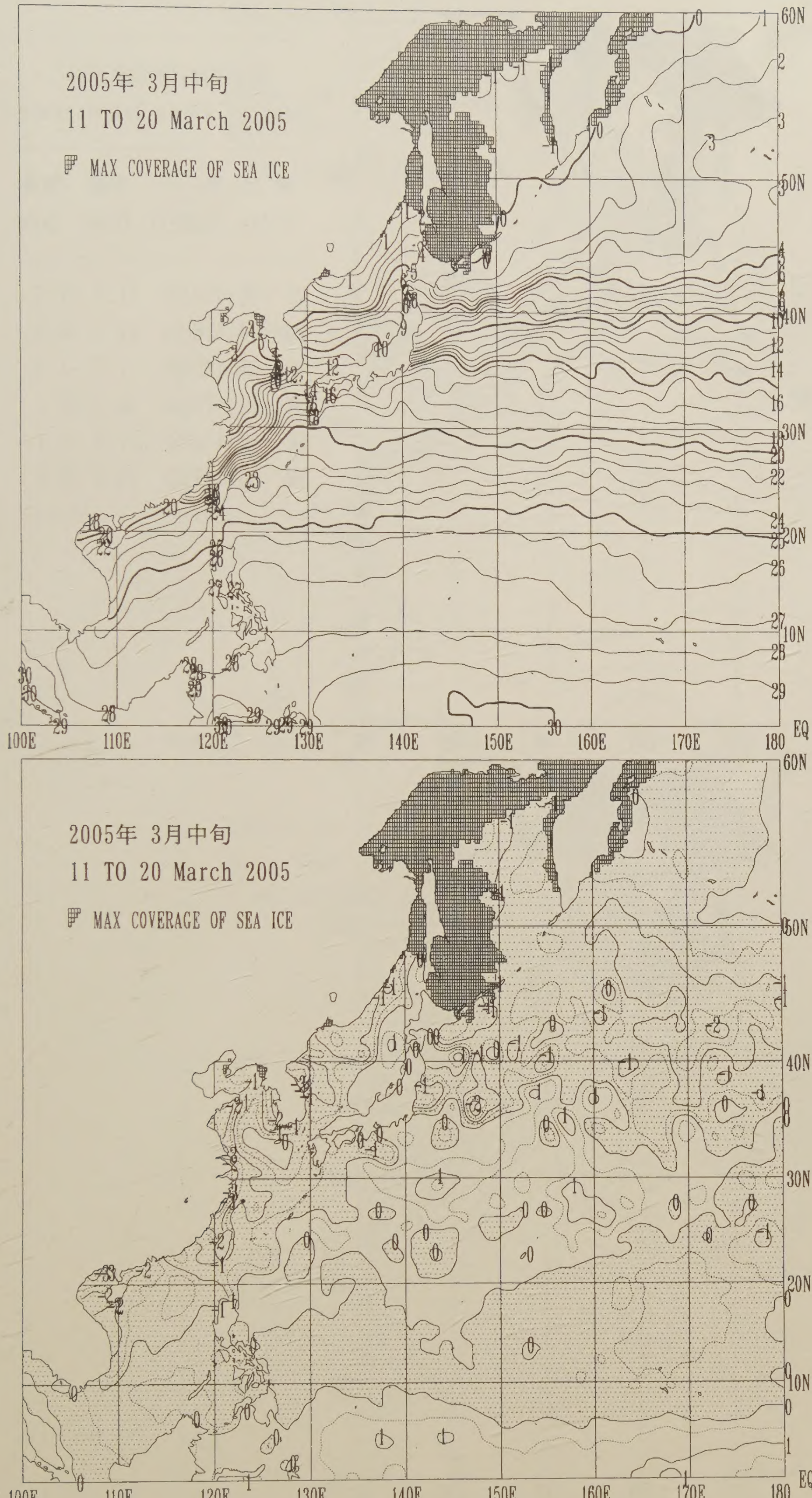
旬平均沿岸水温(℃)
Coastal Water Temperature

地点名 (Index Number)	水温 Temp.	偏差 Anom.
石　垣(47918)	21.3	-0.4
御前崎(47655)	11.4	0.0
小名浜(47598)	7.0	-2.0
宮　古(47585)	5.7	-0.7
江　差(47428)	4.7	-1.1
浜　田(47755)	11.4	-0.4

第1図 北西太平洋旬平均海面水温図(上)及び偏差図(下)(2005年 3月上旬)

Fig. 1 Ten-day mean SST (top) and anomalies (bottom) in the western North Pacific for the 1st ten-day period in March 2005. Anomalies are computed from the JMA climatology (1971-2000). Contour interval is 1°C and additional anomaly contours of 0.5°C are shown by broken lines. Negative anomalies are spotted.

Ten-day mean SST & Anomalies

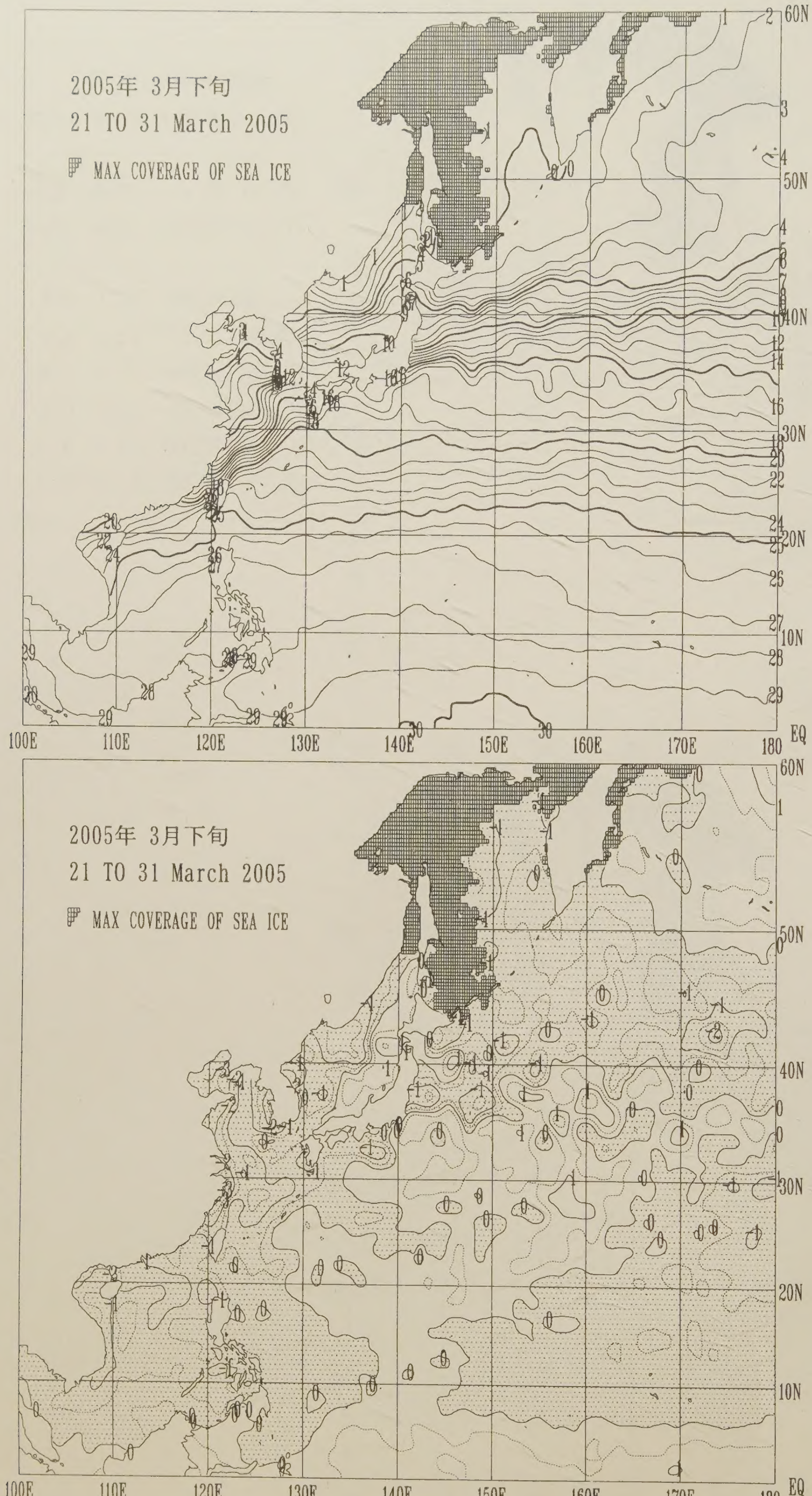


旬平均沿岸水温(℃)
Coastal Water Temperature

地点名 (Index Number)	水温 Temp.	偏差 Anom.
石　垣(47918)	22.1	-0.3
御前崎(47655)	12.2	0.0
小名浜(47598)	7.2	-1.8
宮　古(47585)	5.4	-0.8
江　差(47428)	6.4	0.3
浜　田(47755)	11.9	-0.5

第2図 北西太平洋旬平均海面水温図(上)及び偏差図(下) (2005年 3月中旬)

Fig. 2 Ten-day mean SST (top) and anomalies (bottom) in the western North Pacific for the 2nd ten-day period in March 2005. Anomalies are computed from the JMA climatology (1971-2000). Contour interval is 1°C and additional anomaly contours of 0.5°C are shown by broken lines. Negative anomalies are spotted.



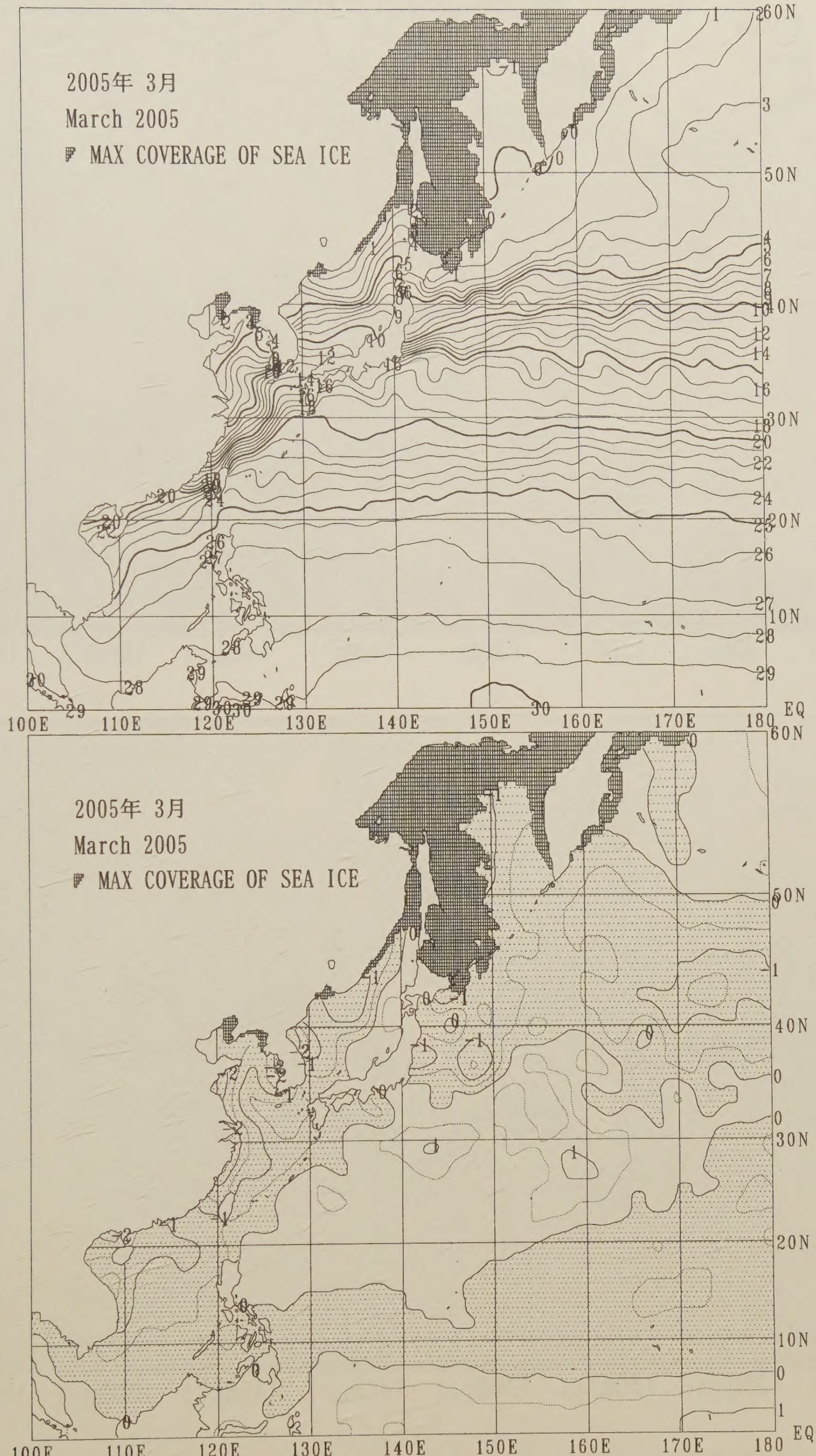
旬平均沿岸水温 (℃)
Coastal Water Temperature

地点名 (Index Number)	水温 Temp.	偏差 Anom.
石　垣 (47918)	21.7	-1.2
御前崎 (47655)	12.6	-0.4
小名浜 (47598)	7.7	-1.4
宮　古 (47585)	6.1	-0.1
江　差 (47428)	7.8	1.1
浜　田 (47755)	12.4	-0.5

第3図 北西太平洋旬平均海面水温図 (上) 及び偏差図 (下) (2005年 3月下旬)

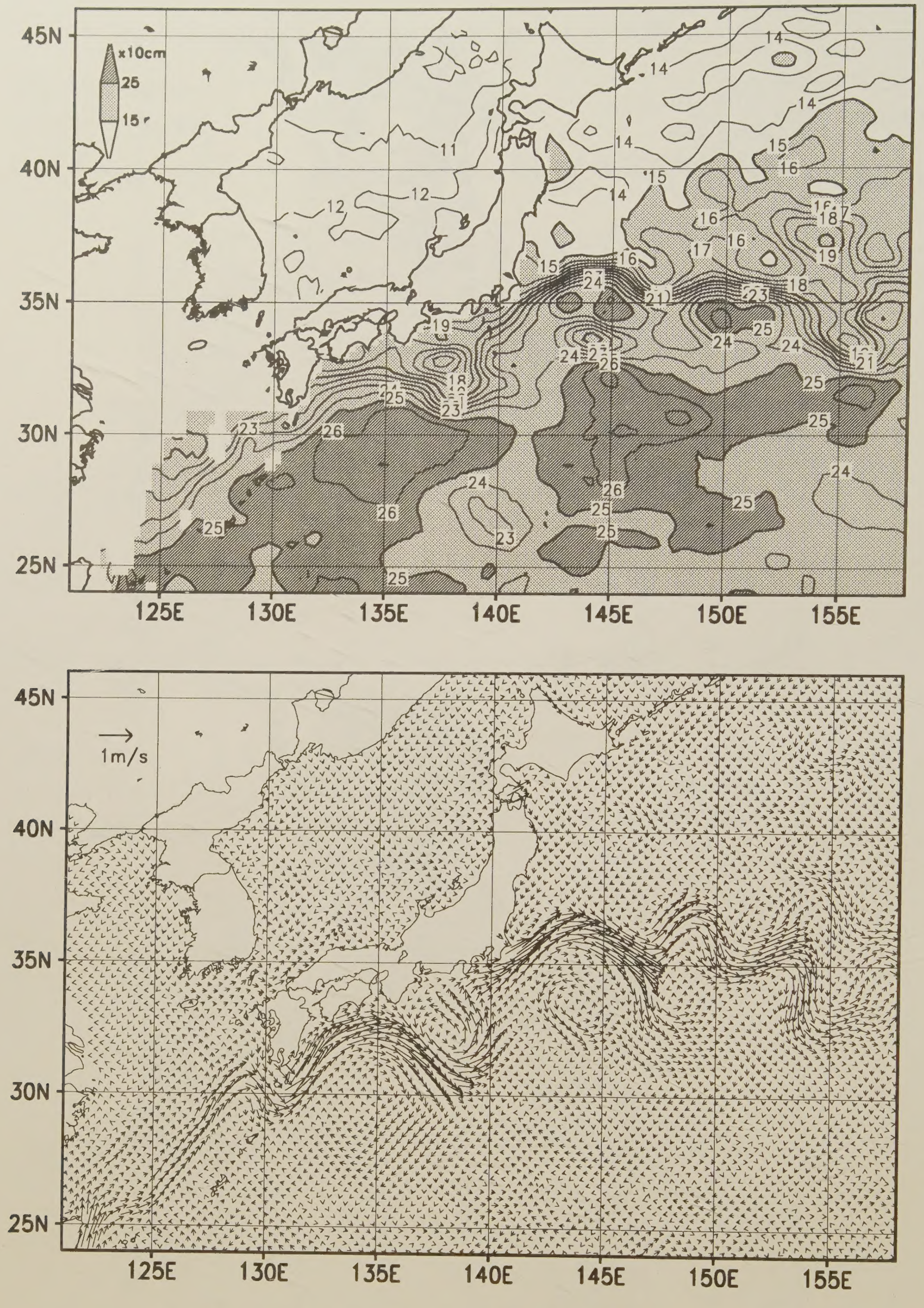
Fig. 3 Ten-day mean SST (top) and anomalies (bottom) in the western North Pacific for the 3rd ten-day period in March 2005. Anomalies are computed from the JMA climatology (1971-2000). Contour interval is 1°C and additional anomaly contours of 0.5°C are shown by broken lines. Negative anomalies are spotted.

Monthly Mean SST & Anomalies



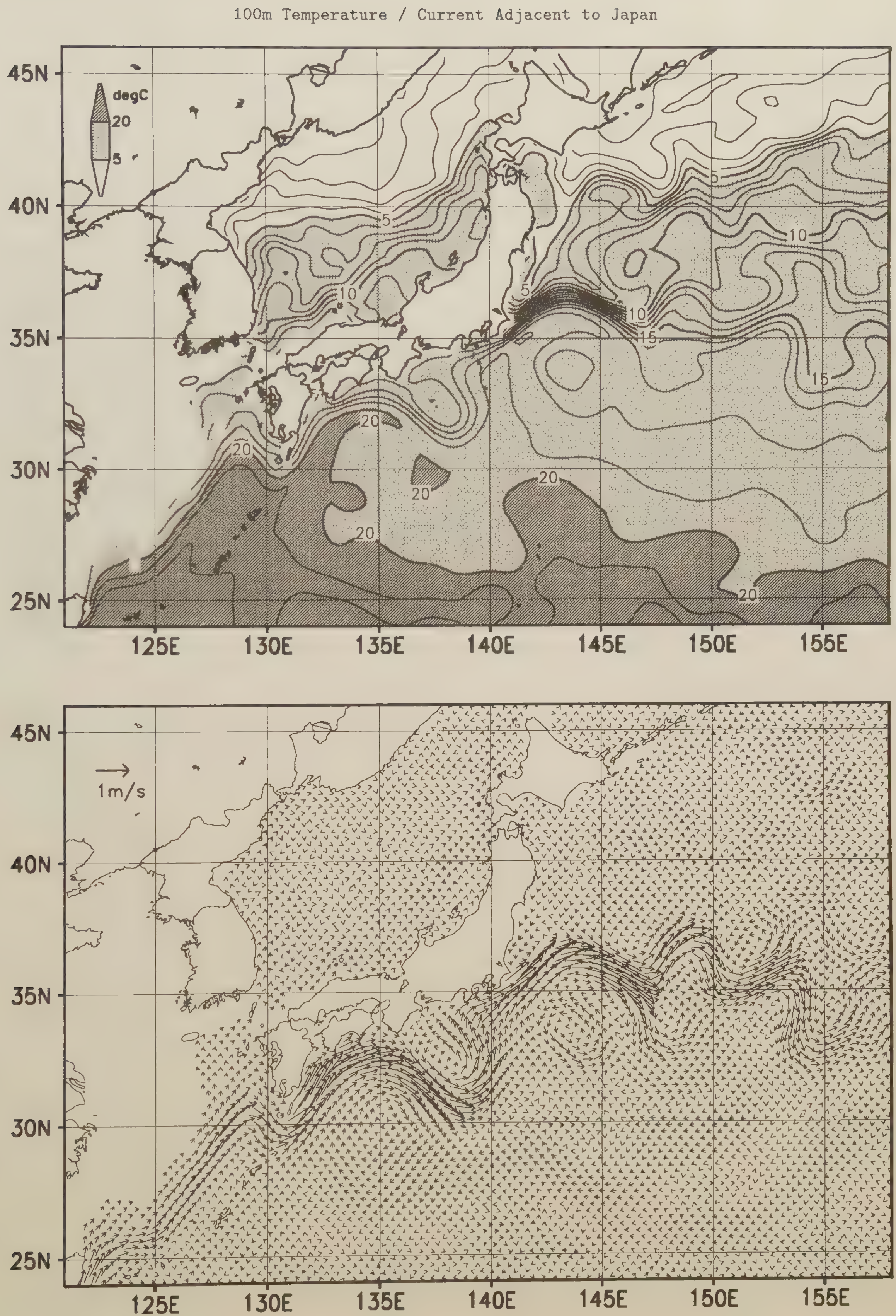
第4図 北西太平洋月平均海面水温図(上)及び偏差図(下) (2005年 3月)

Fig. 4 Monthly mean SST (top) and anomalies (bottom) in the western North Pacific for March 2005. Anomalies are computed from the JMA climatology (1971-2000). Contour interval is 1°C and additional anomaly contours of 0.5°C are shown by broken lines. Negative anomalies are spotted.



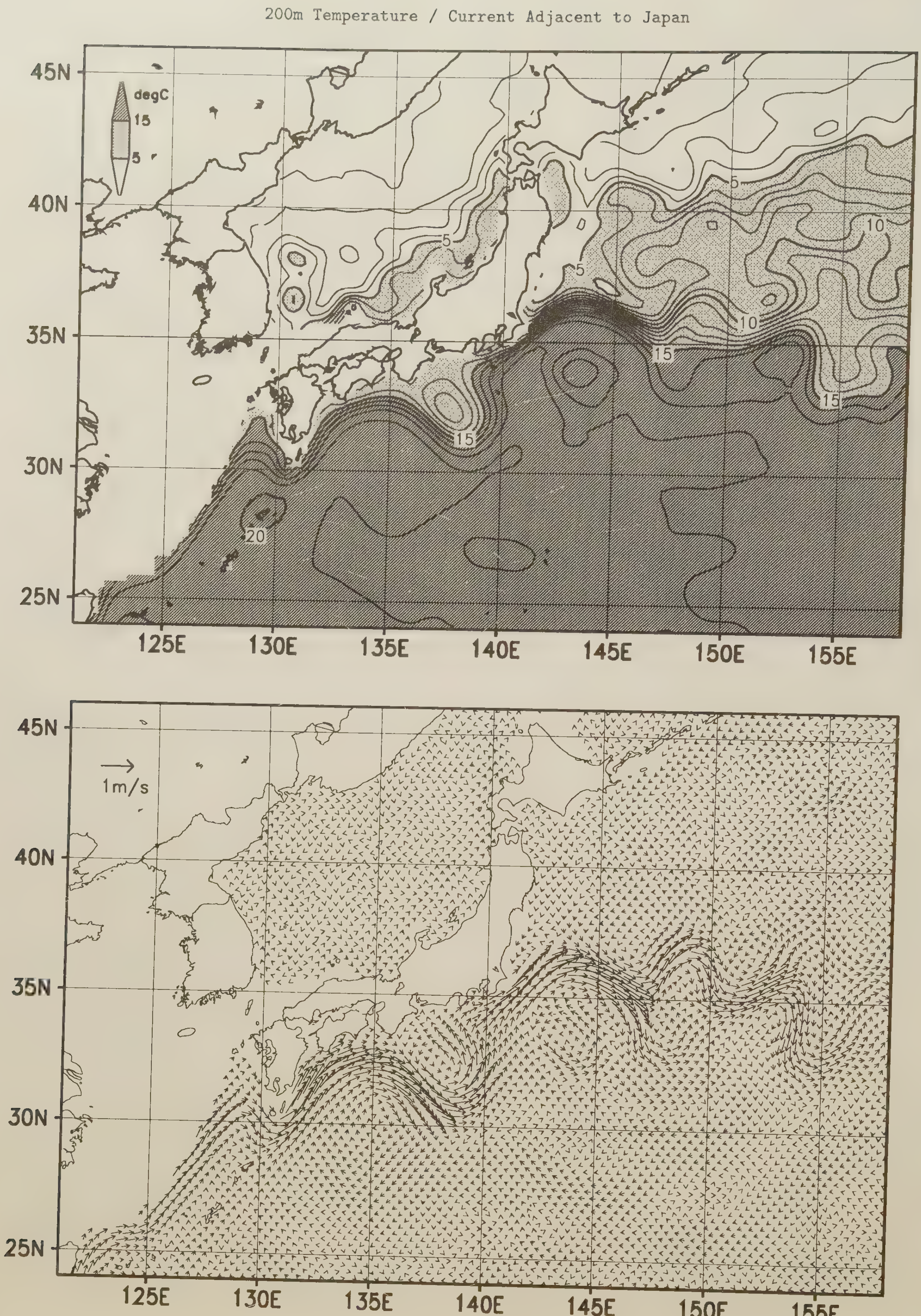
第５図　日本近海月平均海面高度分布図(上)と海面海流図(下)（2005年３月）
（海洋総合解析システムによる）

Fig. 5　Monthly mean sea surface height (top) and current (bottom) in seas adjacent to Japan for March 2005. Contour interval is 10cm (top). (calculated by the Ocean Comprehensive Analysis System)



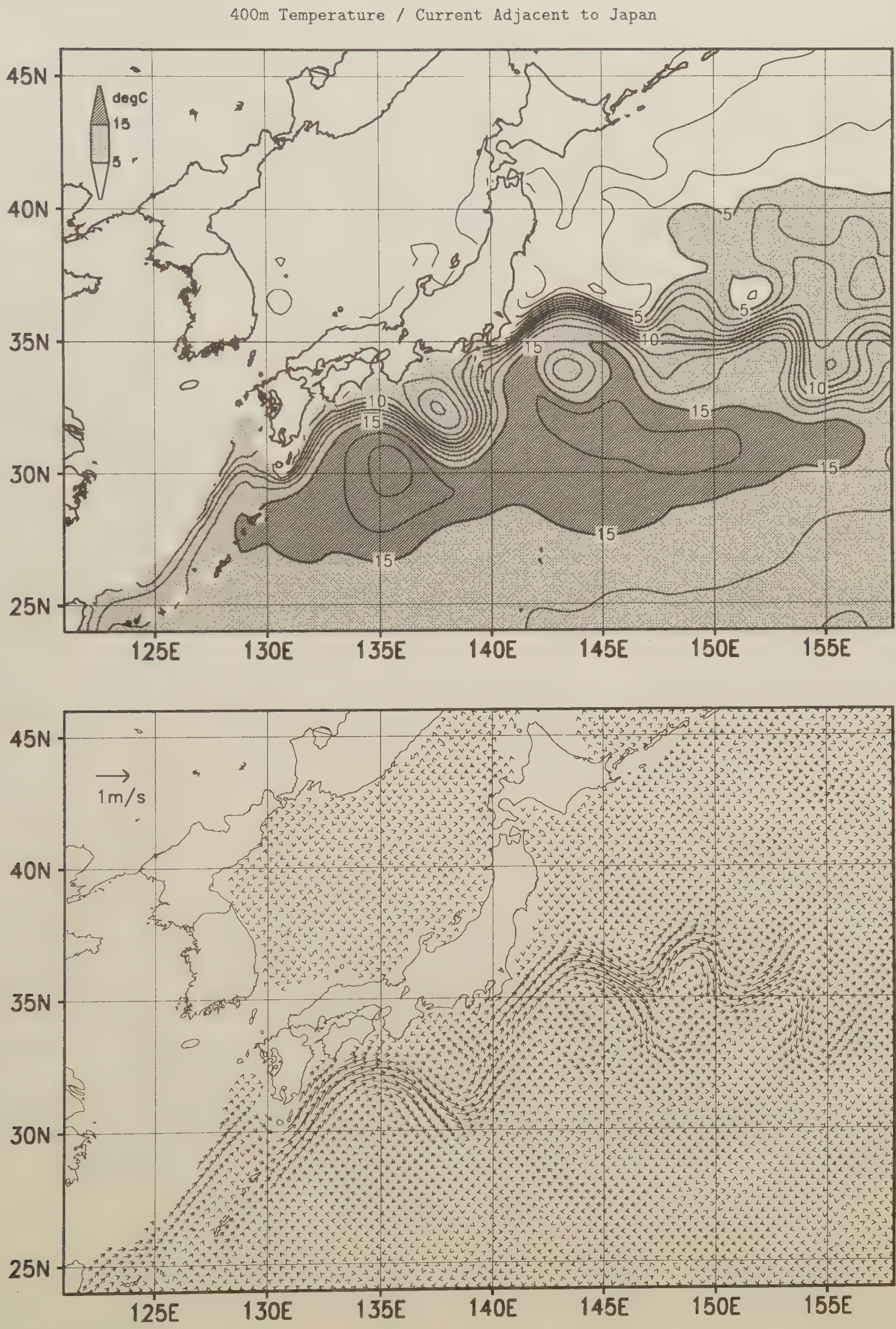
第6図　日本近海月平均表層水温図（上）と表層海流図（下）（深さ 100 m）（2005 年 3 月）
（海洋総合解析システムによる）

Fig. 6　Monthly mean subsurface (100 m) temperature (top) and current (bottom) in seas adjacent to Japan for March 2005. Contour interval is 1 ℃ (top). (calculated by the Ocean Comprehensive Analysis System)



第７図　日本近海月平均表層水温図（上）と表層海流図（下）　（深さ 200 m）（2005 年３月）
（海洋総合解析システムによる）

Fig. 7　Monthly mean subsurface (200 m) temperature (top) and current (bottom) in seas adjacent to Japan for March 2005. Contour interval is 1 ℃ (top). (calculated by the Ocean Comprehensive Analysis System)



第 8 図　日本近海月平均表層水温図（上）と表層海流図（下）（深さ 400 m）（2005 年 3 月）
（海洋総合解析システムによる）

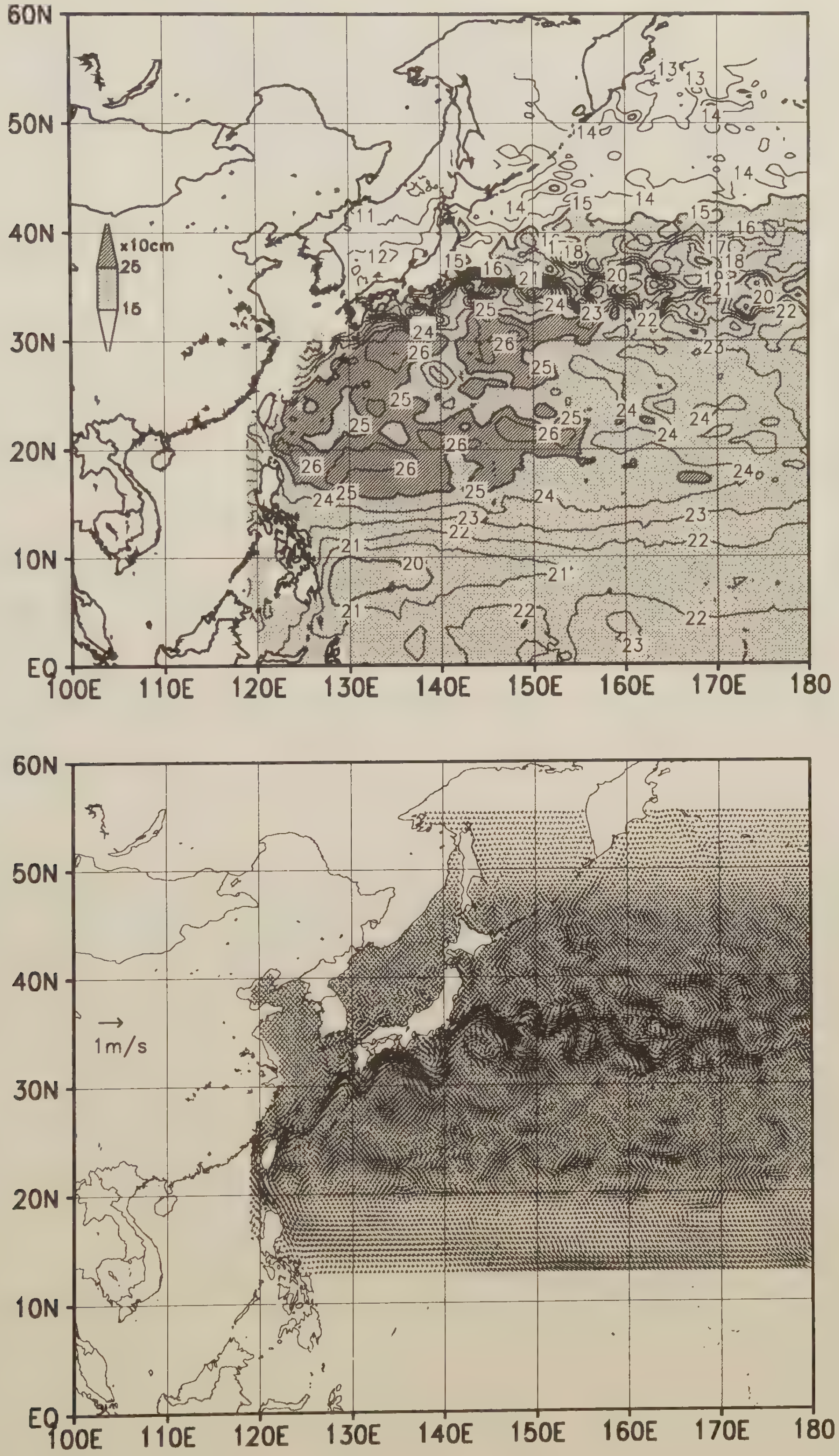
Fig. 8　Monthly mean subsurface (400 m) temperature (top) and current (bottom) in seas adjacent to Japan for March 2005. Contour interval is 1 ℃ (top). (calculated by the Ocean Comprehensive Analysis System)

Location of the Kuroshio axis



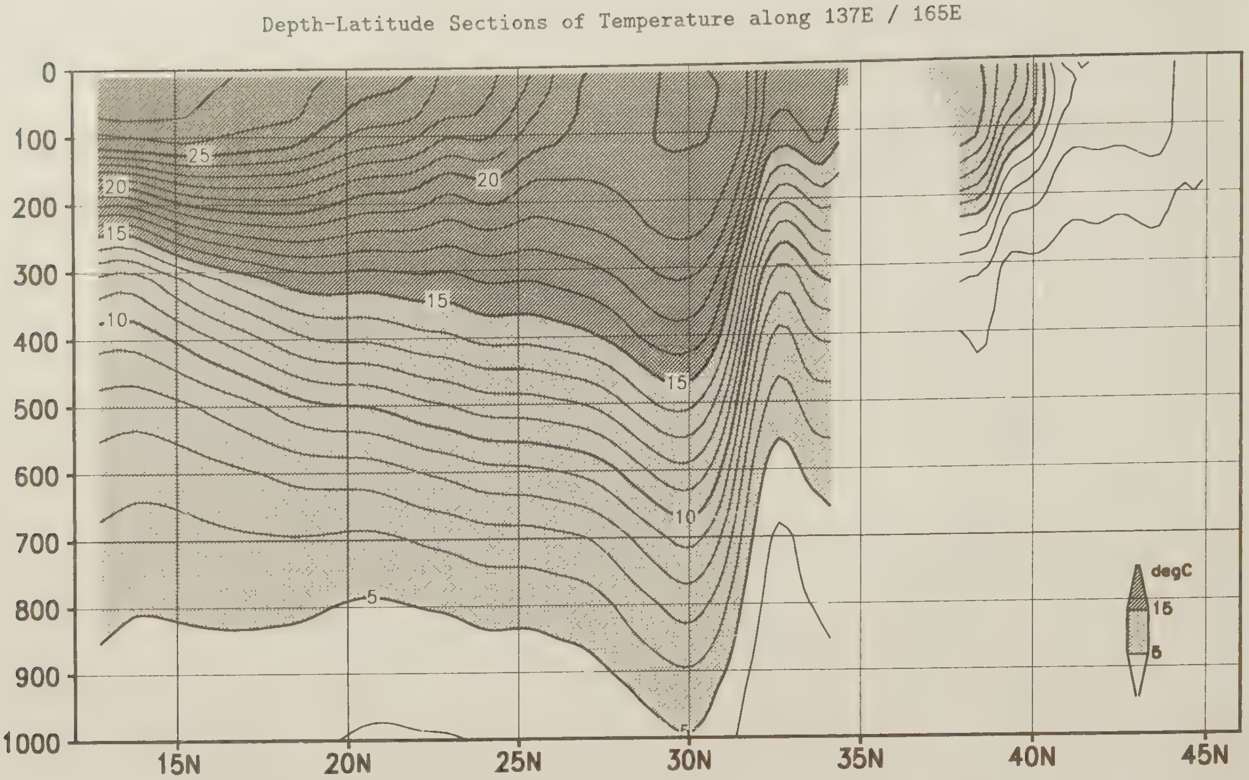
第9図 旬別黒潮流軸図

Fig. 9 Location of the Kuroshio axis



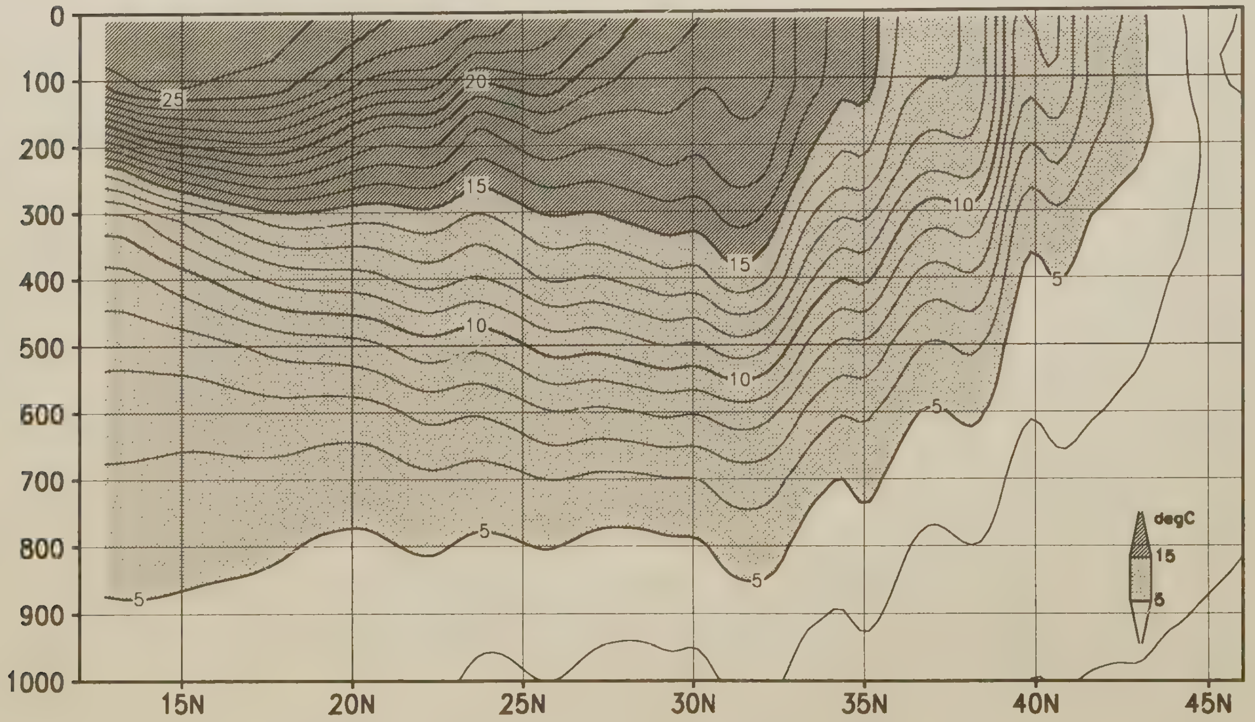
第 10 図　北西太平洋月平均海面高度分布図 (上) と海面海流図 (下) (2005 年 3 月)
(海洋総合解析システムによる)

Fig. 10　Monthly mean sea surface height (top) and current (bottom) in the western North Pacific for March 2005. Contour interval is 10cm (top). (calculated by the Ocean Comprehensive Analysis System)



第 11 図　東経 137° 線に沿う月平均表層水温の鉛直断面図 （2005 年 3 月）
（海洋総合解析システムによる）

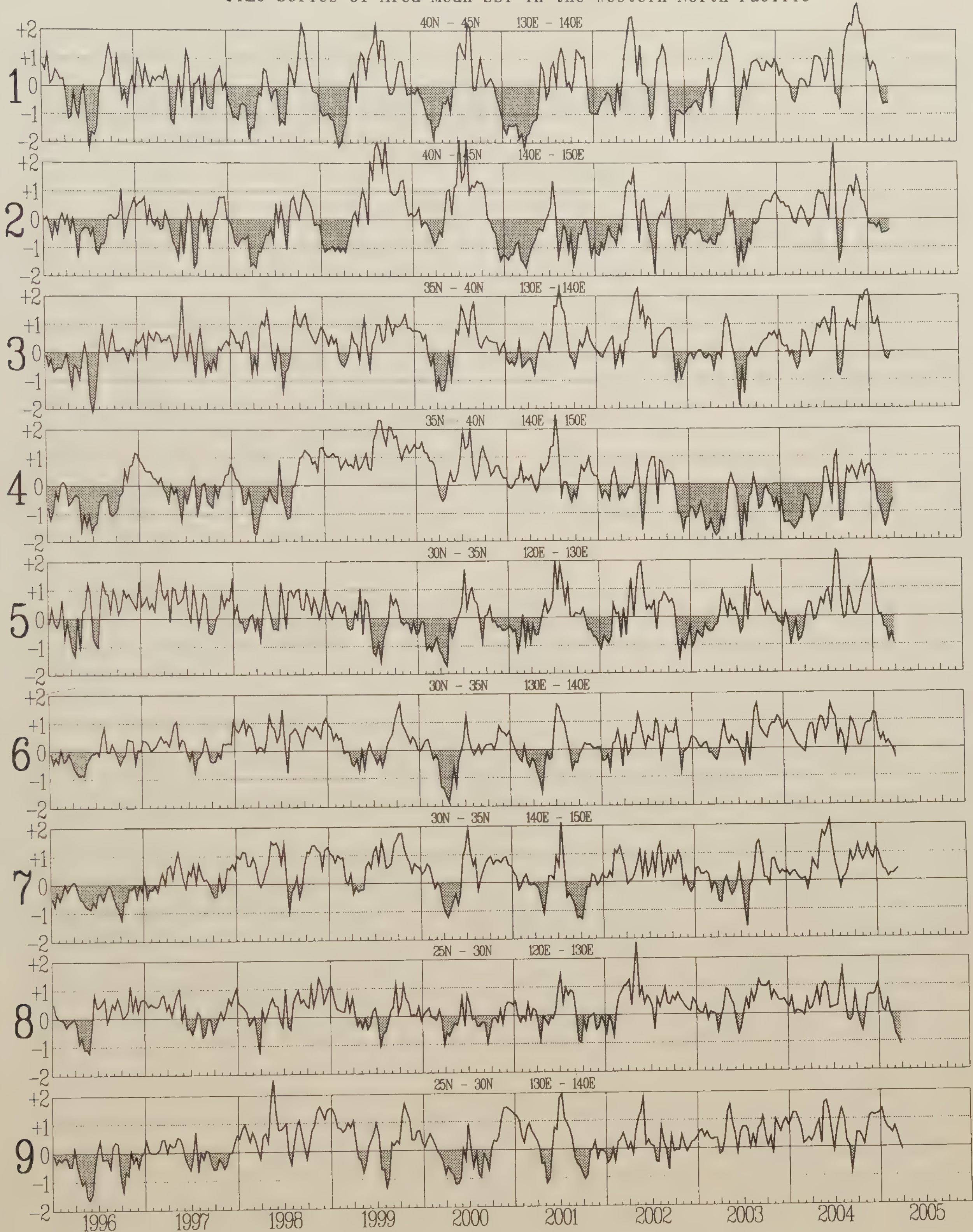
Fig. 11　Vertical cross section of monthly mean temperature along 137 °E for March 2005. Contour interval is 1 ℃. (calculated by the Ocean Comprehensive Analysis System)

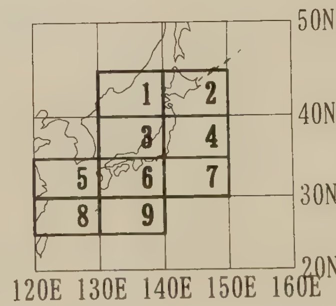


第 12 図　東経 165° 線に沿う月平均表層水温の鉛直断面図 （2005 年 3 月）
（海洋総合解析システムによる）

Fig. 12　Vertical cross section of monthly mean temperature along 165 °E for March 2005. Contour interval is 1 ℃. (calculated by the Ocean Comprehensive Analysis System)

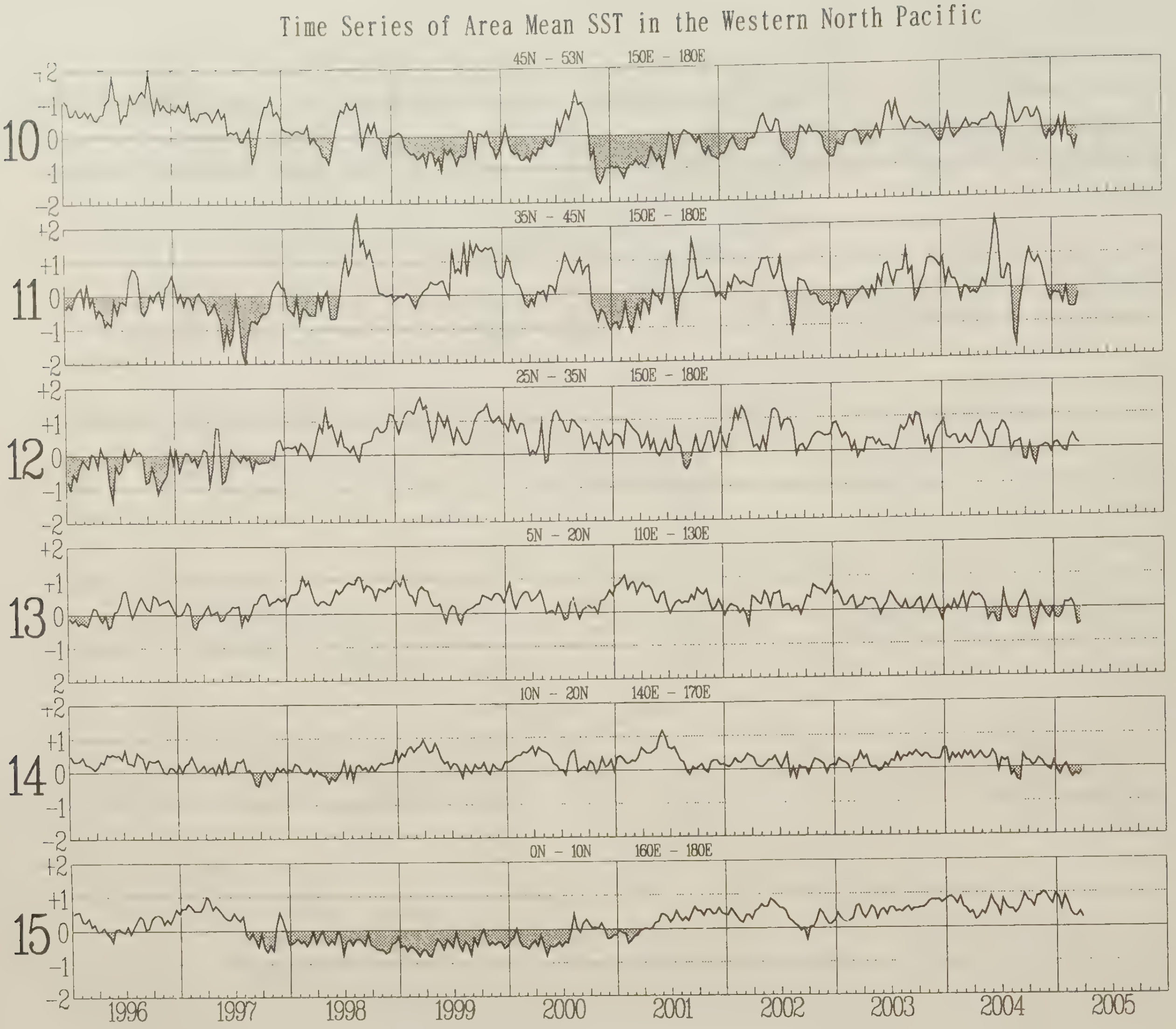
Time Series of Area Mean SST in the Western North Pacific





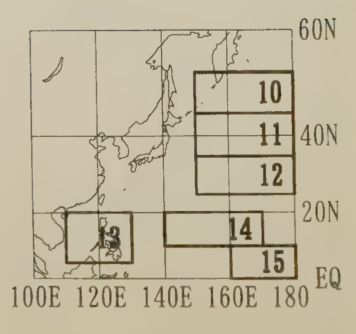
第13図　海域別旬平均海面水温平年偏差時系列図

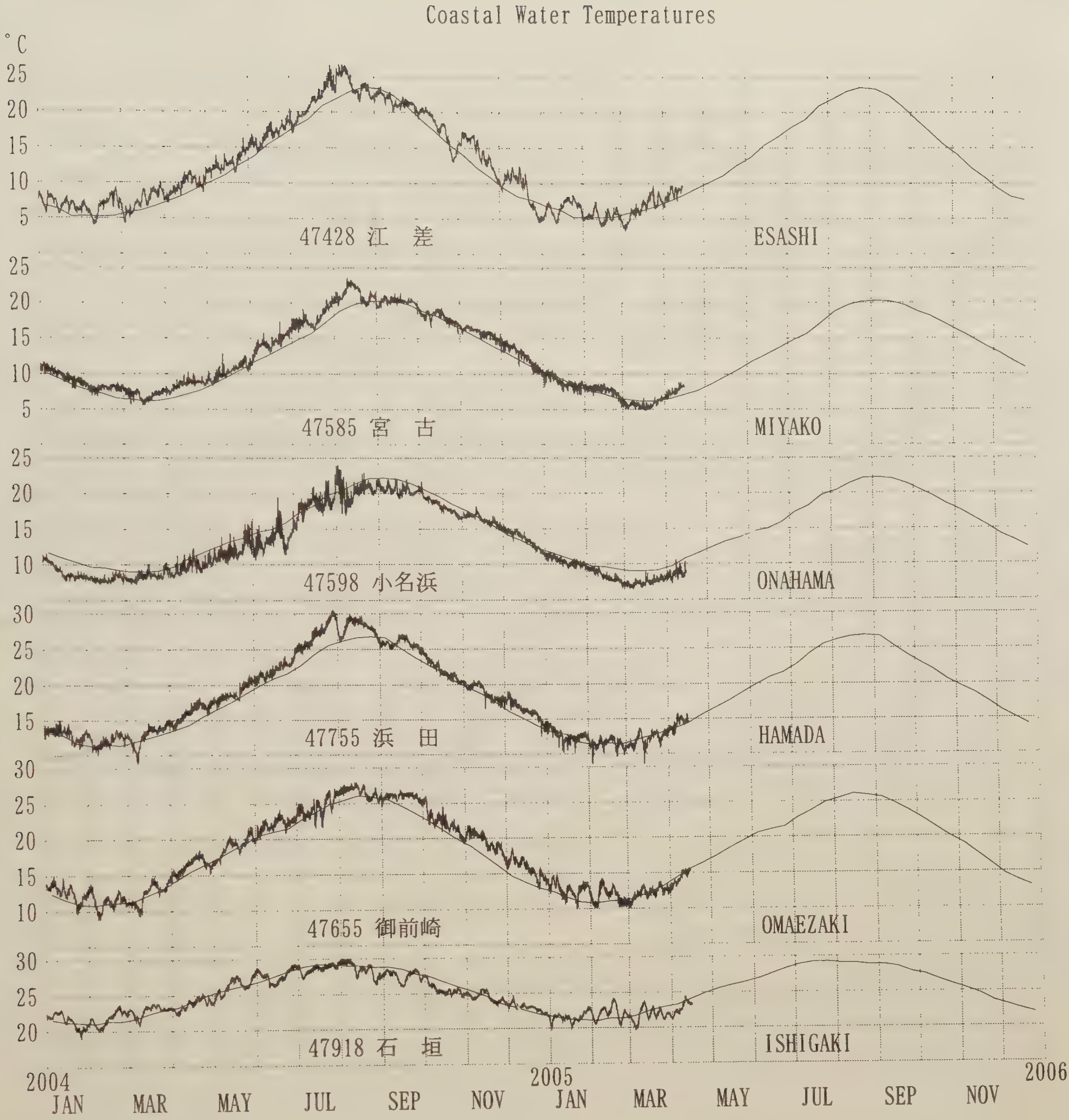
Fig. 13 Time series of the ten-day mean SST anomalies (°C) in the western North Pacific for the areas shown in the right panel. Negative anomalies are shaded. Anomalies are computed from the JMA climatology (1971-2000).



第13図　海域別旬平均海面水温平年偏差時系列図（つづき）

Fig. 13 (continue) Time series of the ten-day mean SST anomalies (°C) in the western North Pacific for the areas shown in the right panel. Negative anomalies are shaded. Anomalies are computed from the JMA climatology (1971-2000).

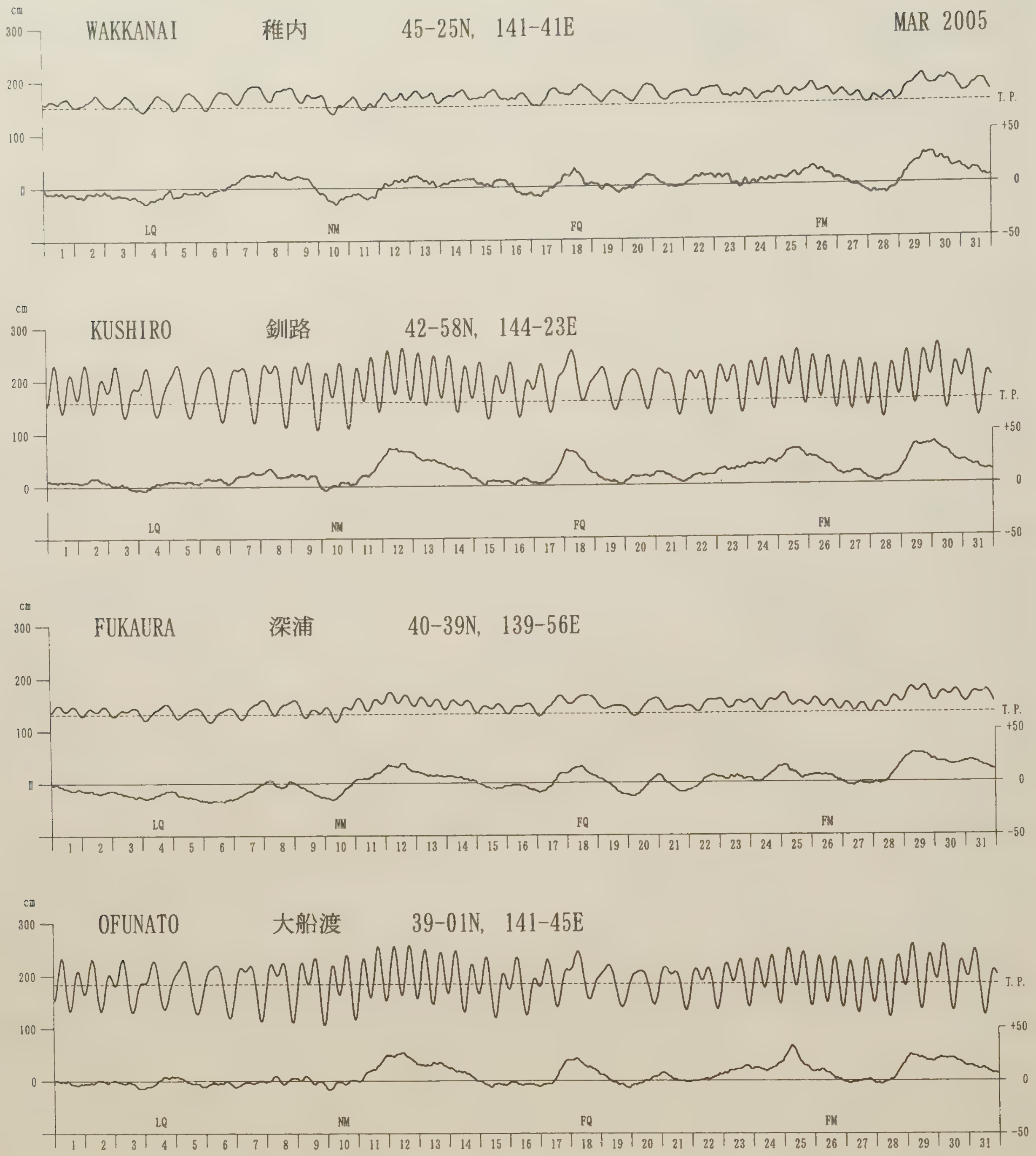




第14図 沿岸水温時系列図

Fig. 14 Time series of hourly coastal water temperatures (°C) measured at 6 coastal stations of the JMA shown in the right panel.
Thin lines show ten-day mean climatology.





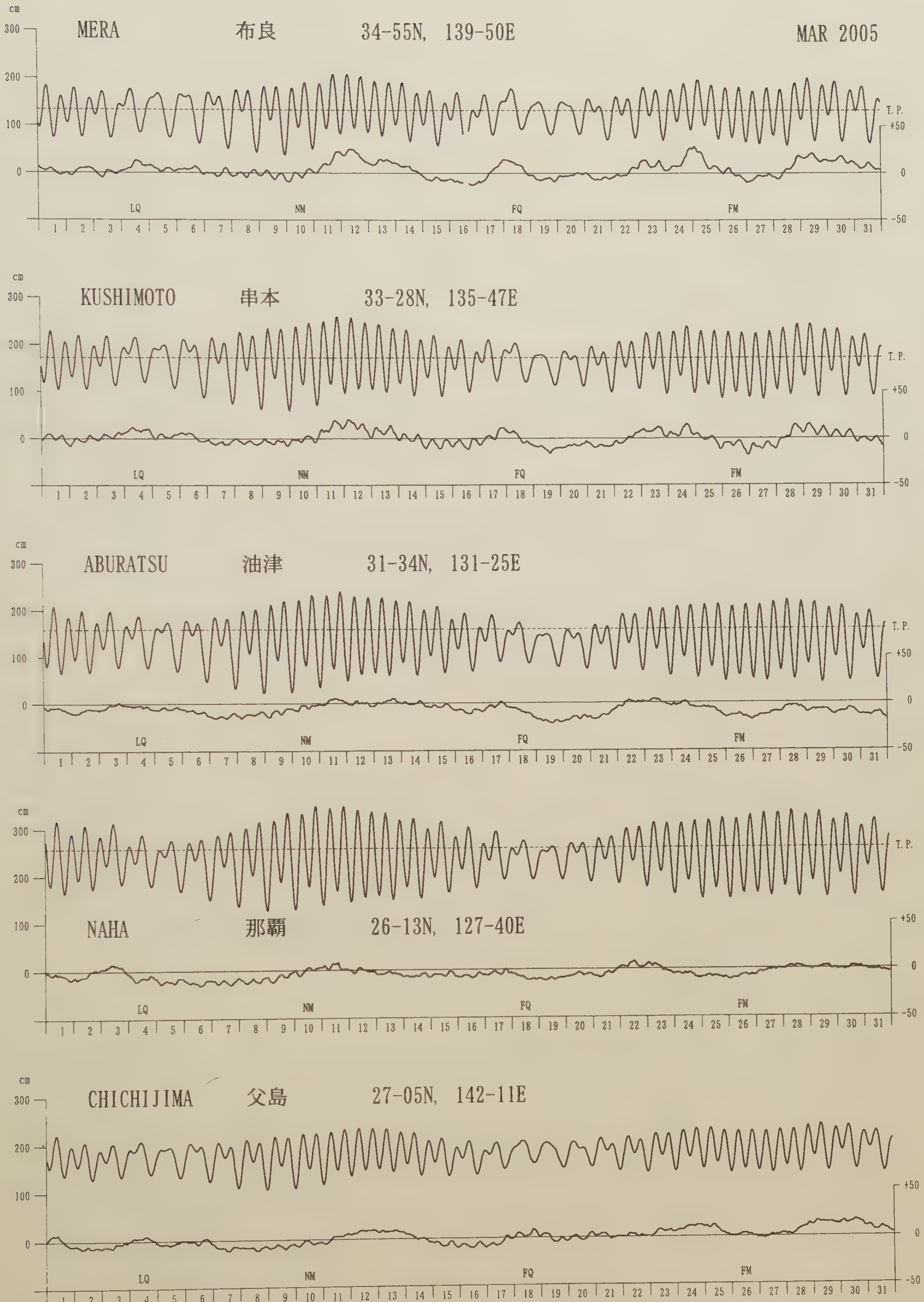
第15図 沿岸潮位時系列図（2005年 3月）

Fig. 15 Time series of hourly sea level observation (upper line) and its anomalies (lower line) at 9 stations of the JMA in the right panel.
Short term variations are removed from raw data.



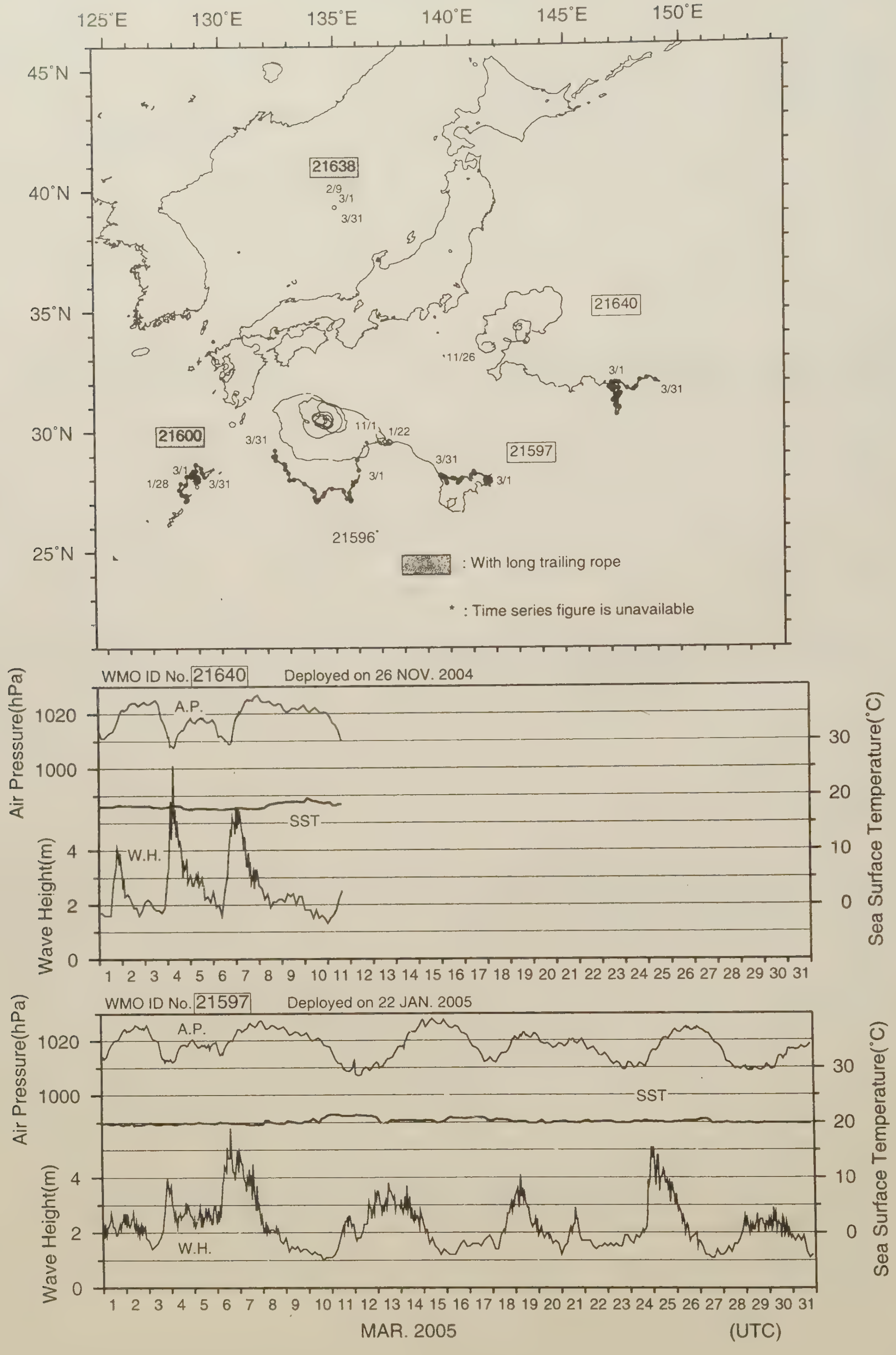
NM: new moon, FQ: first quarter
FM: full moon, LQ: last quarter
T. P. : Mean sea level of Tokyo Bay (Tokyo Peil)

Time series of Sea Level



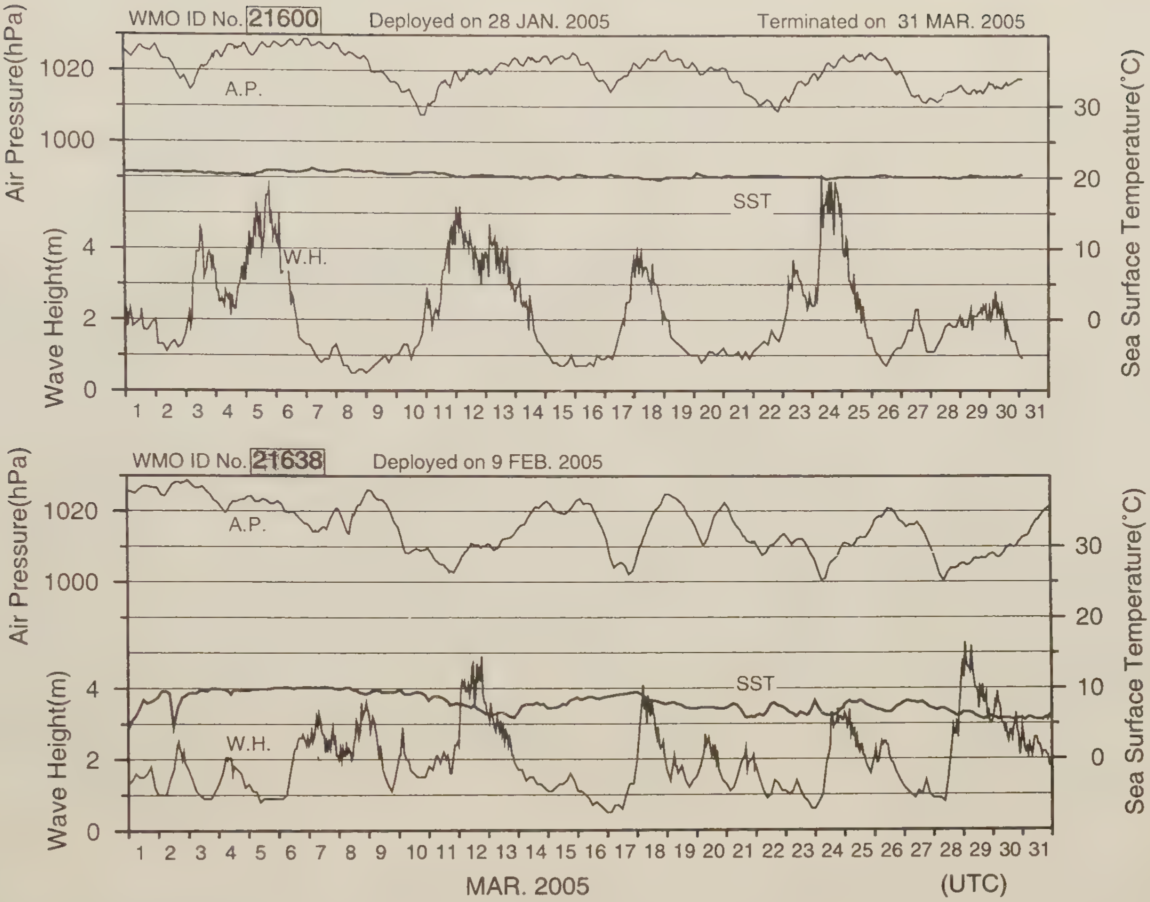
第15図 つづき

Fig. 15 continue



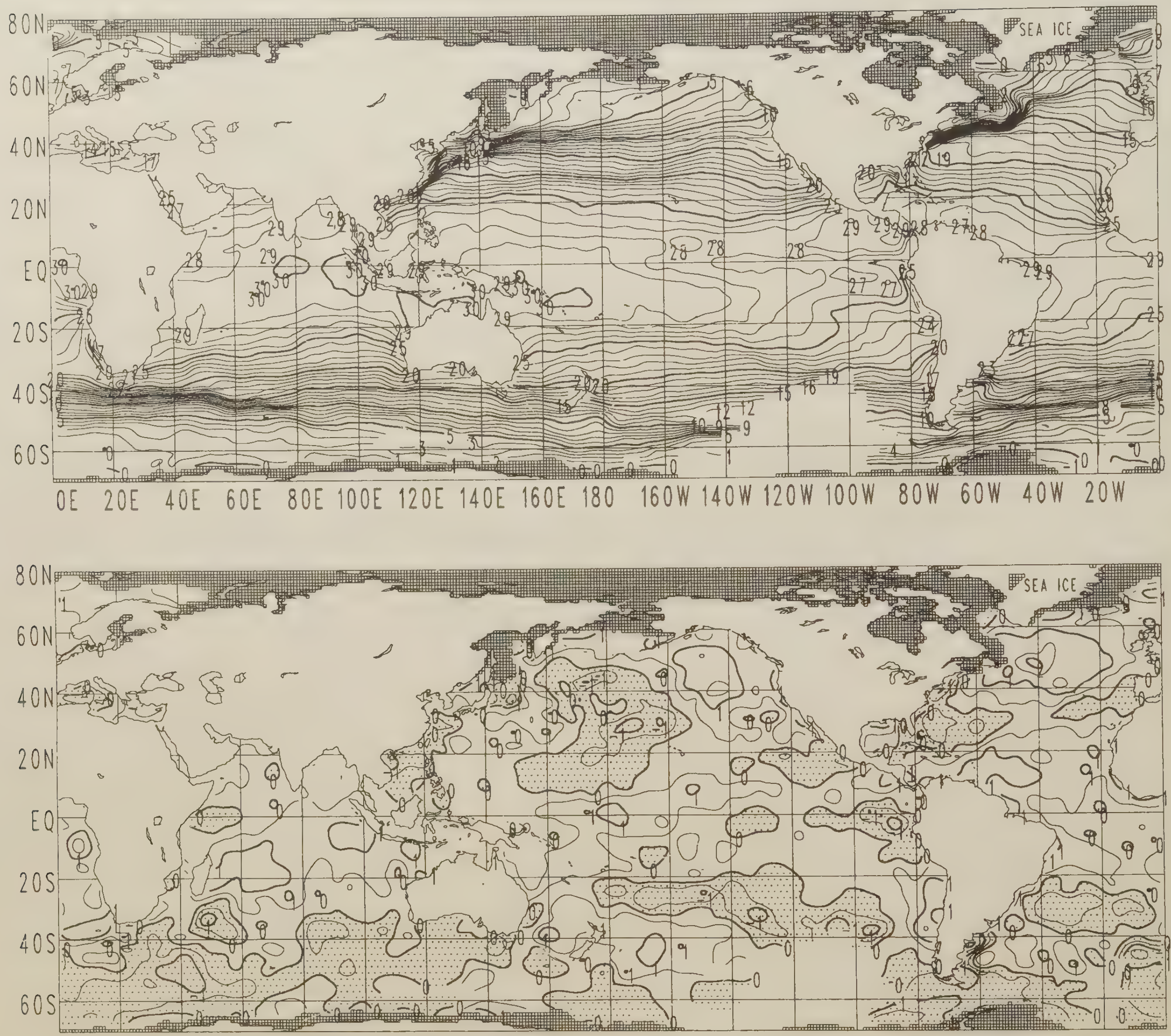
第16図　漂流型海洋気象ブイロボットの軌跡と観測要素の時系列図

Fig.16　Time series of JMA drifting buoy observation.
The upper panel shows paths of the buoys. Circles denote the position at 00h UTC everyday.
The lower panel shows time series of observation data.



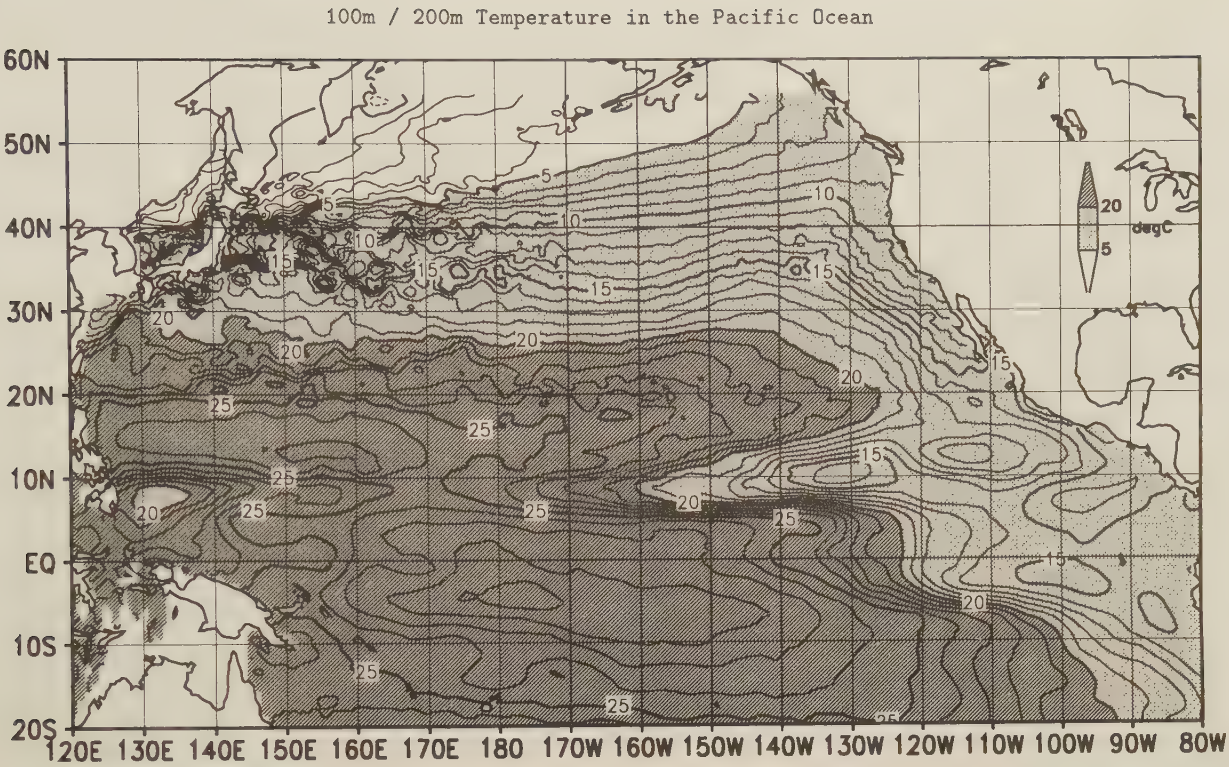
第16図 つづき
Fig.16 continue

SST & Anomalies in the Global Ocean



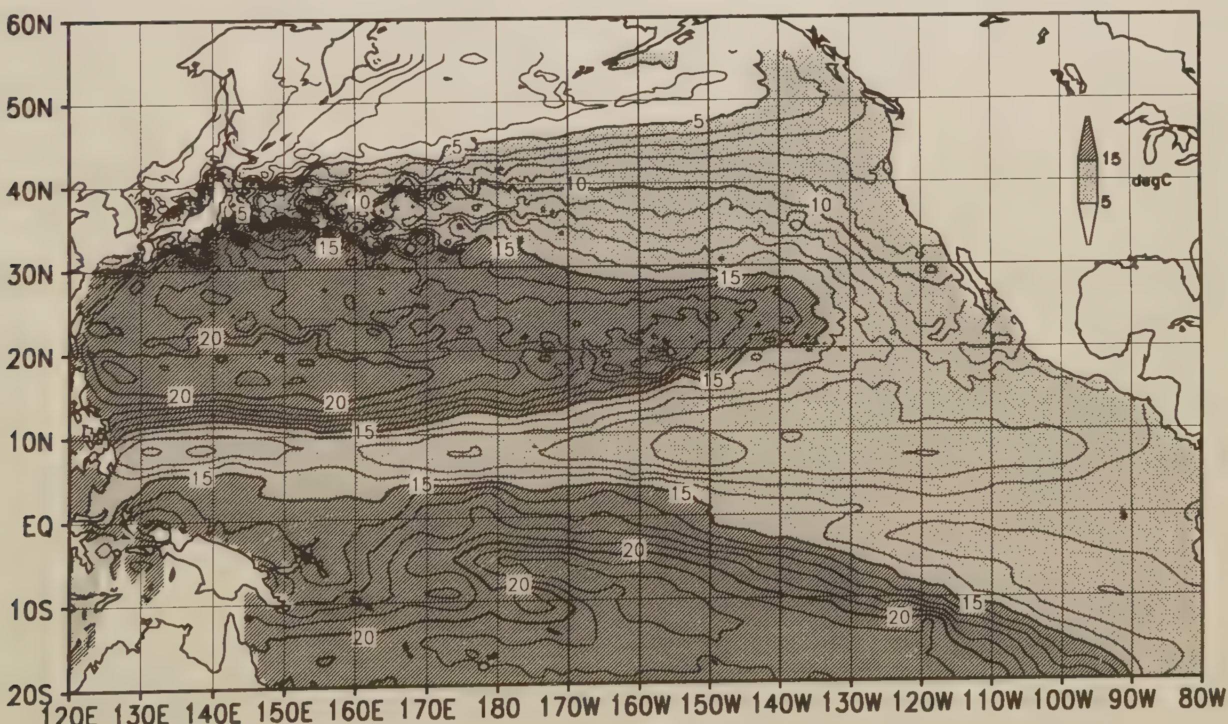
第17図　全球月平均海面水温図（上）及び偏差図（下）（2005年 3月）

Fig. 17 Monthly mean SST over the global ocean (top) and anomalies (bottom) for March 2005. Anomalies are computed from the JMA climatology (1971-2000). Contour interval is 1°C (top) and additional anomaly contours of ±0.5°C are shown by thin lines. Negative anomalies are spotted. Maximum coverage of sea ice is shaded. Data sources for sea ice are U.S. National Ice Center (polar regions) and JMA (the Sea of Okhotsk).



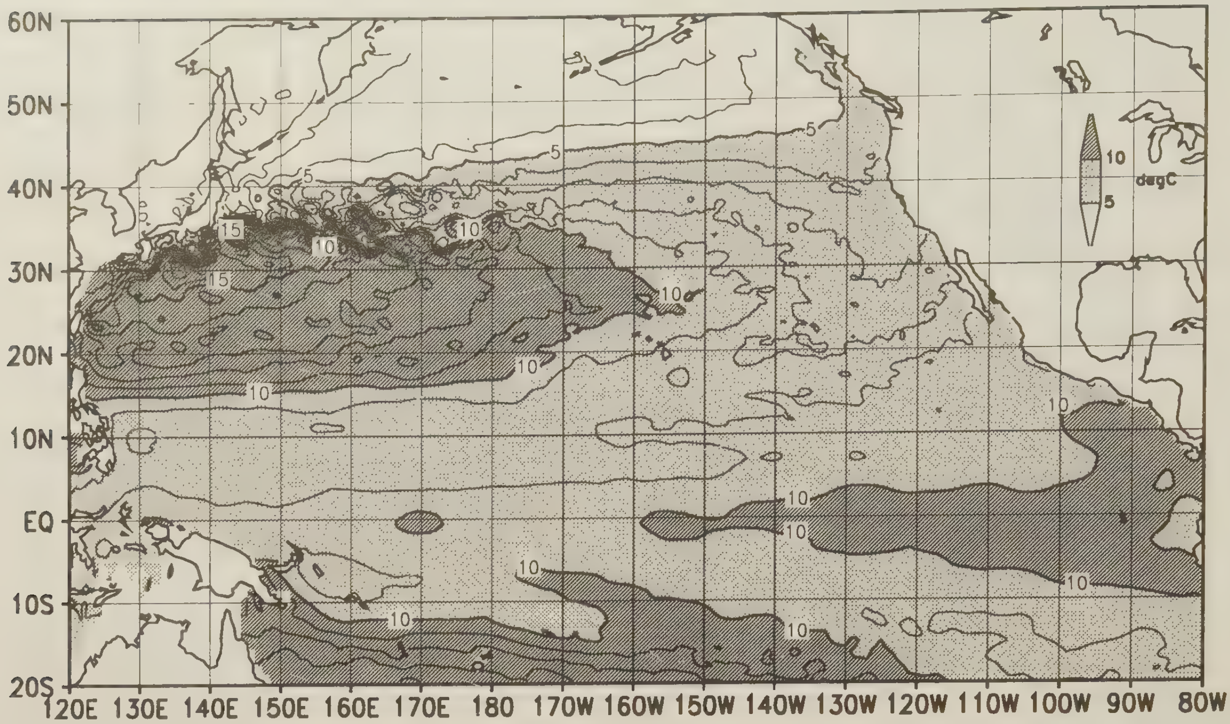
第 18 図　太平洋月平均表層水温図（深さ 100 m）　(2005 年 3 月)
（海洋総合解析システムによる）

Fig. 18　Monthly mean subsurface (100 m) temperature in the Pacific Ocean for March 2005. Contour interval is 1 ℃. (calculated by the Ocean Comprehensive Analysis System)



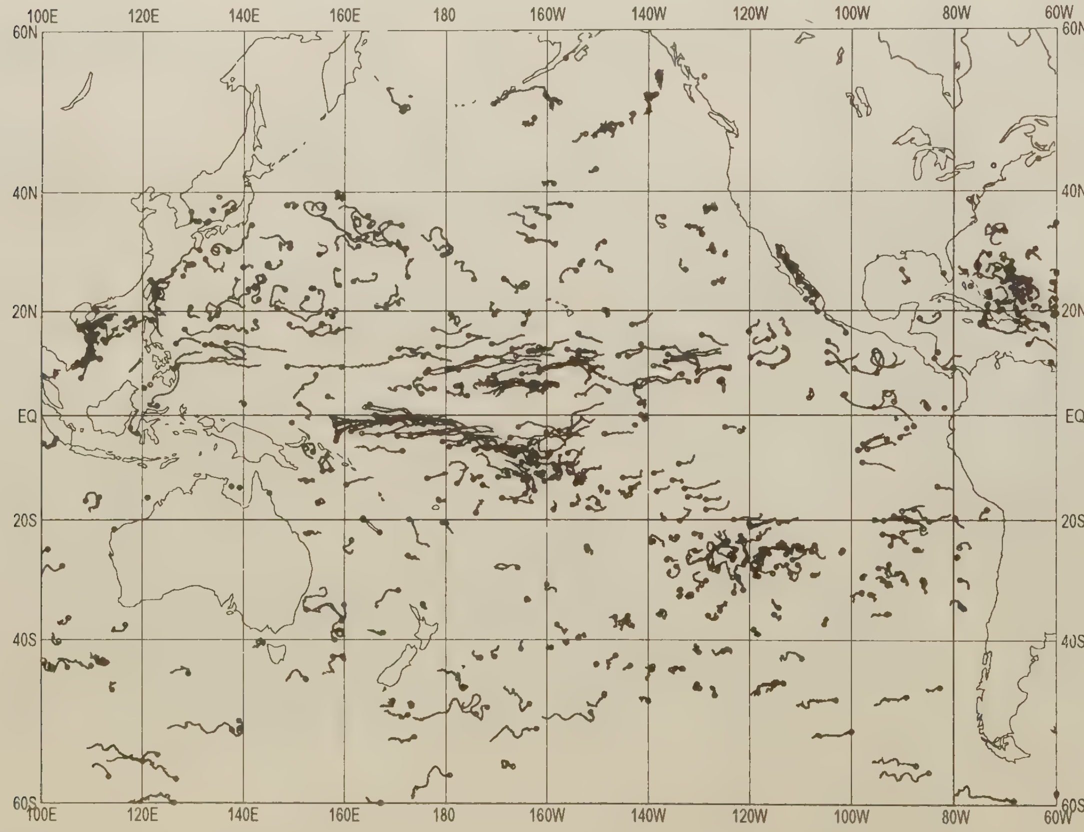
第 19 図　太平洋月平均表層水温図（深さ 200 m）　(2005 年 3 月)
（海洋総合解析システムによる）

Fig. 19　Monthly mean subsurface (200 m) temperature in the Pacific Ocean for March 2005. Contour interval is 1 ℃. (calculated by the Ocean Comprehensive Analysis System)



第 20 図　太平洋月平均表層水温図（深さ 400 m）（2005 年 3 月）
（海洋総合解析システムによる）

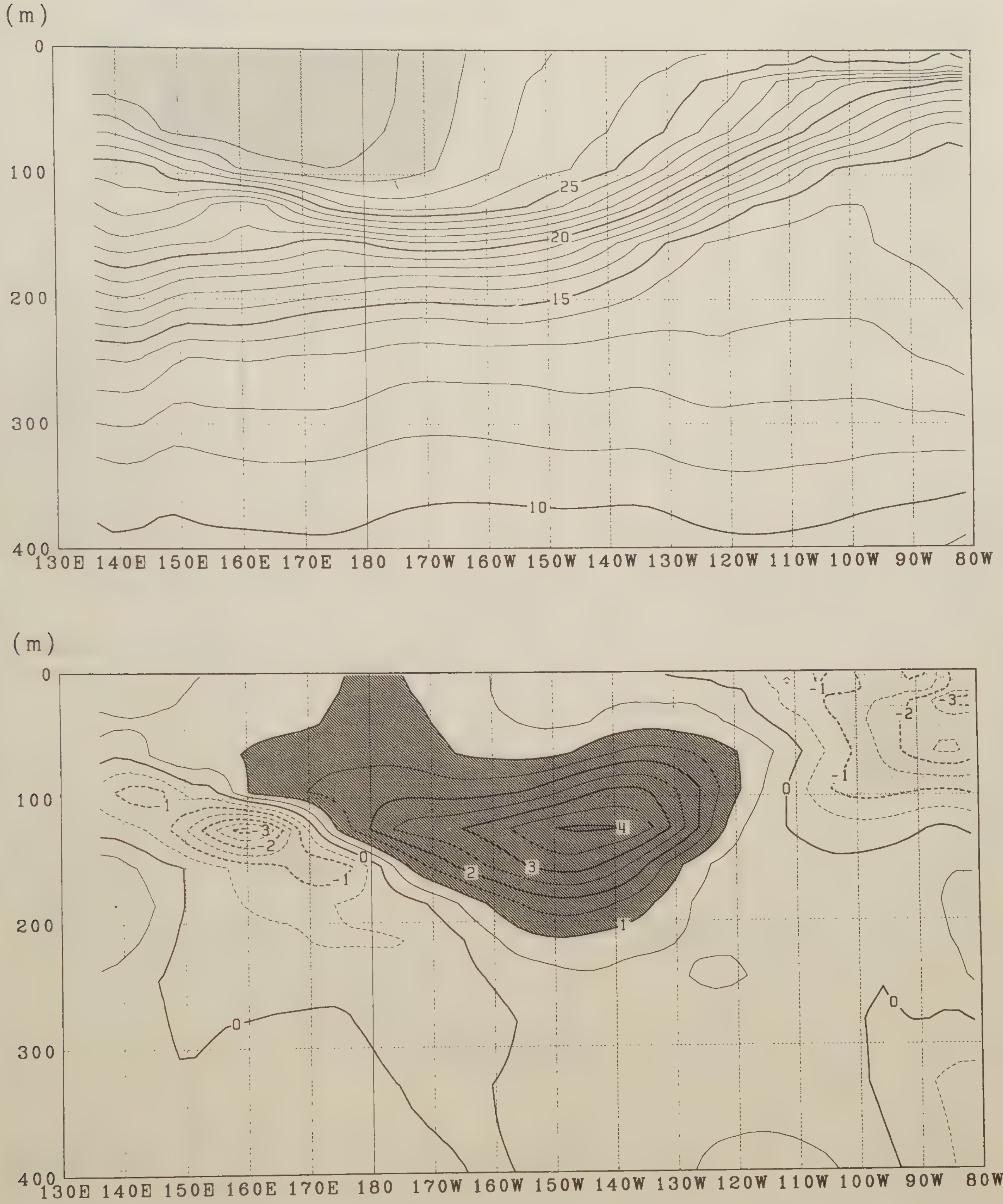
Fig. 20　Monthly mean subsurface (400 m) temperature in the Pacific Ocean for March 2005. Contour interval is 1 ℃. (calculated by the Ocean Comprehensive Analysis System)



第 21 図　太平洋ブイ流跡図（2005 年 3 月）

Fig. 21　Trajectories of drifting buoys in the Pacific Ocean during March 2005. Each track is for one buoy. Small circles represent the last positions for the month.

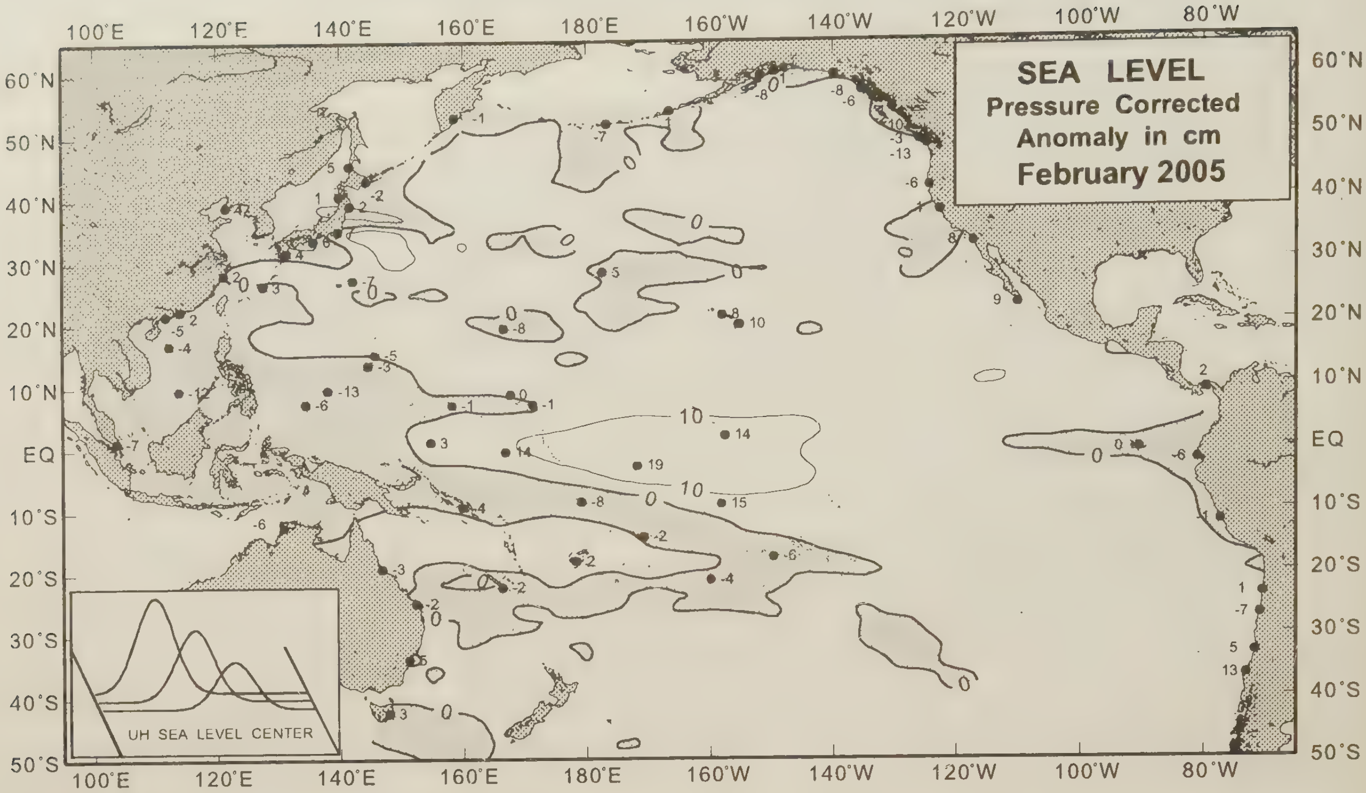
Depth-Longitude Sections of Equatorial Temperature & Anomalies



第22図　太平洋赤道に沿う表層水温（上）及び偏差（下）の深度－経度断面図（2005年 3月）

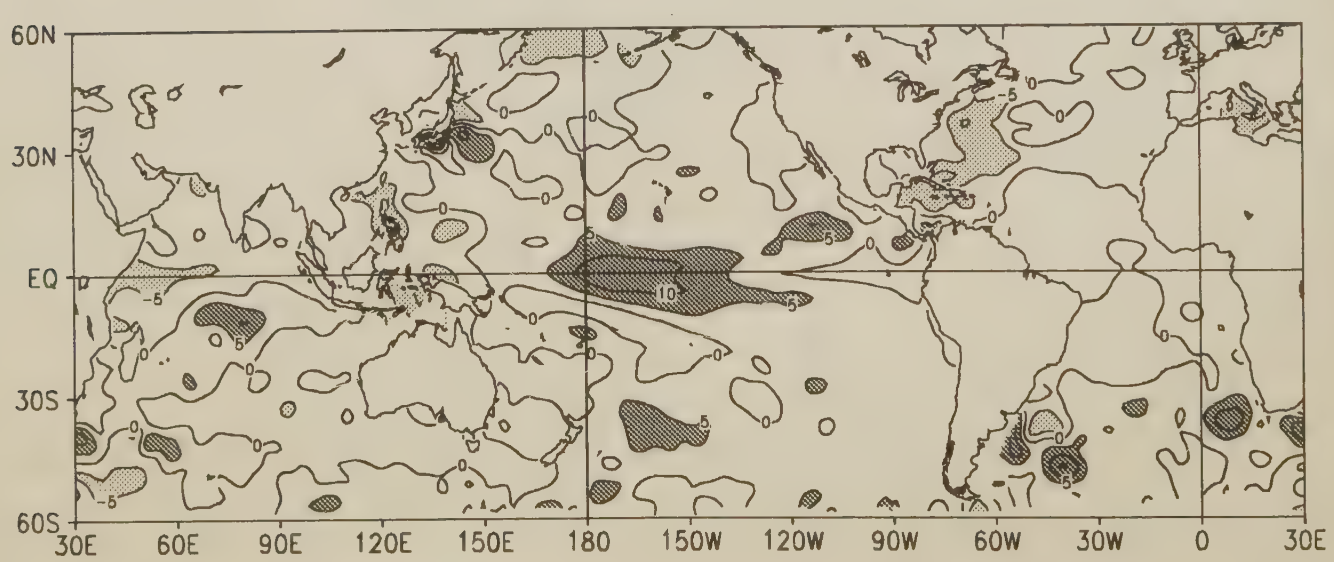
Fig. 22 Depth-longitude sections of temperature (top) and anomalies (bottom) along the equator in the Pacific Ocean for March 2005. Data are derived from the Ocean Data Assimilation System of JMA. Contour interval is 1°C (top) and 0.5°C (bottom). Values greater than 28°C in the top panel are shaded. In the bottom panel, values greater than 1°C are shaded and values less than -1°C are spotted. Anomalies are computed from 1987-2004 base period means.

Sea Level Anomalies / Sea Surface Height Anomalies



第 23 図　太平洋月平均海面水位偏差図（2005 年 2 月）

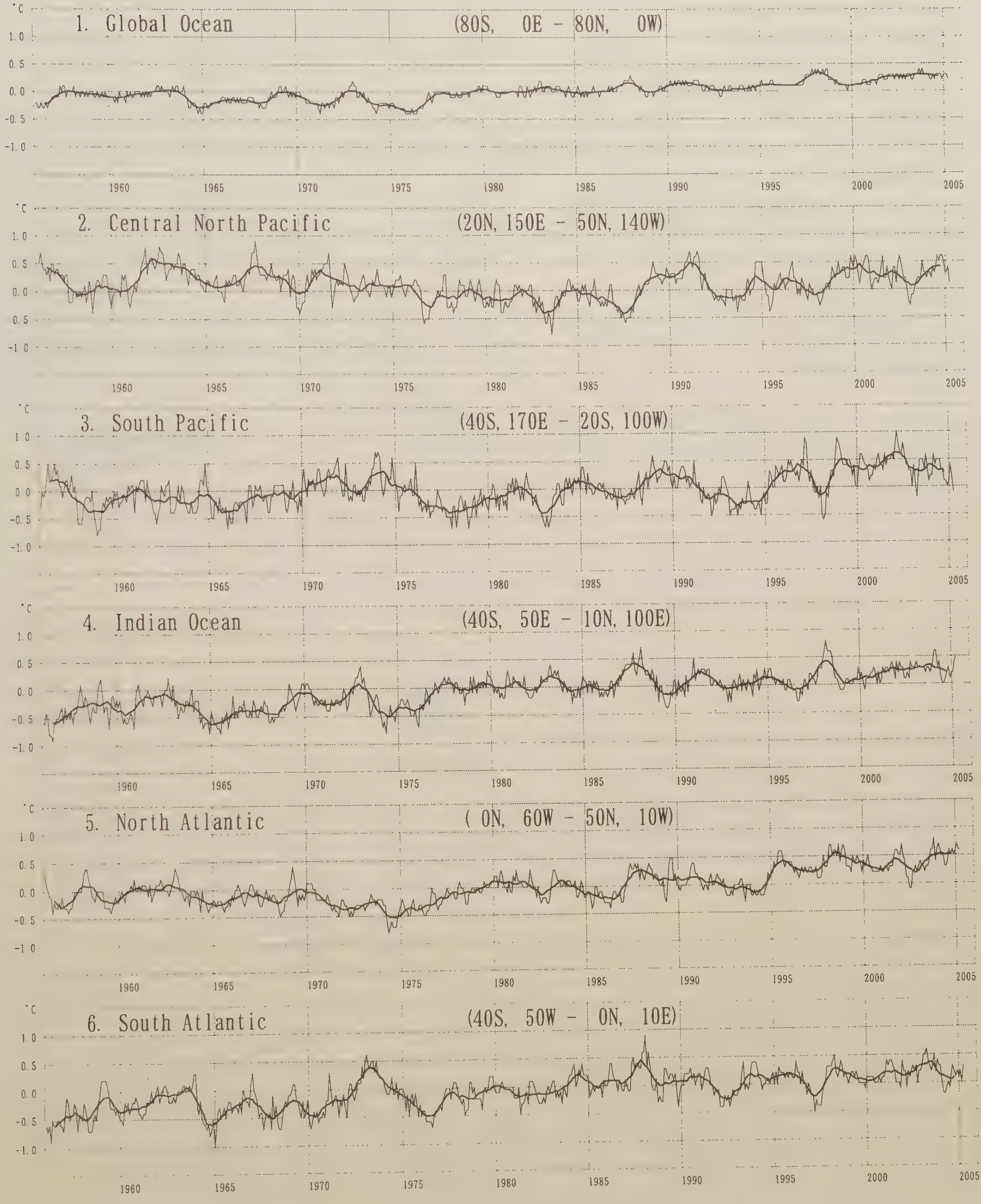
Fig. 23　Monthly sea level anomalies for February 2005 obtained from mean sea level (1993-2001) adjusted for atmospheric pressure. This figure is prepared by the SOC of ISLP-PAC, Department of Oceanography, University of Hawaii.

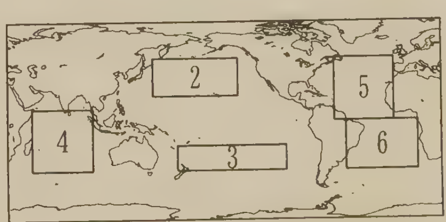


第 24 図　全球月平均海面高度偏差図（2005 年 2 月）

Fig. 24　Monthly sea surface height anomalies in the global ocean derived from the altimeter data of Jason-1 for February 2005. Contour interval is 5 cm. Positive anomalies exceeding +5 cm are shaded and negative anomalies exceeding -5 cm are spotted. Anomalies are computed from 1993-1998 base period means.

Long-term Variation of Monthly Mean SST Anomalies

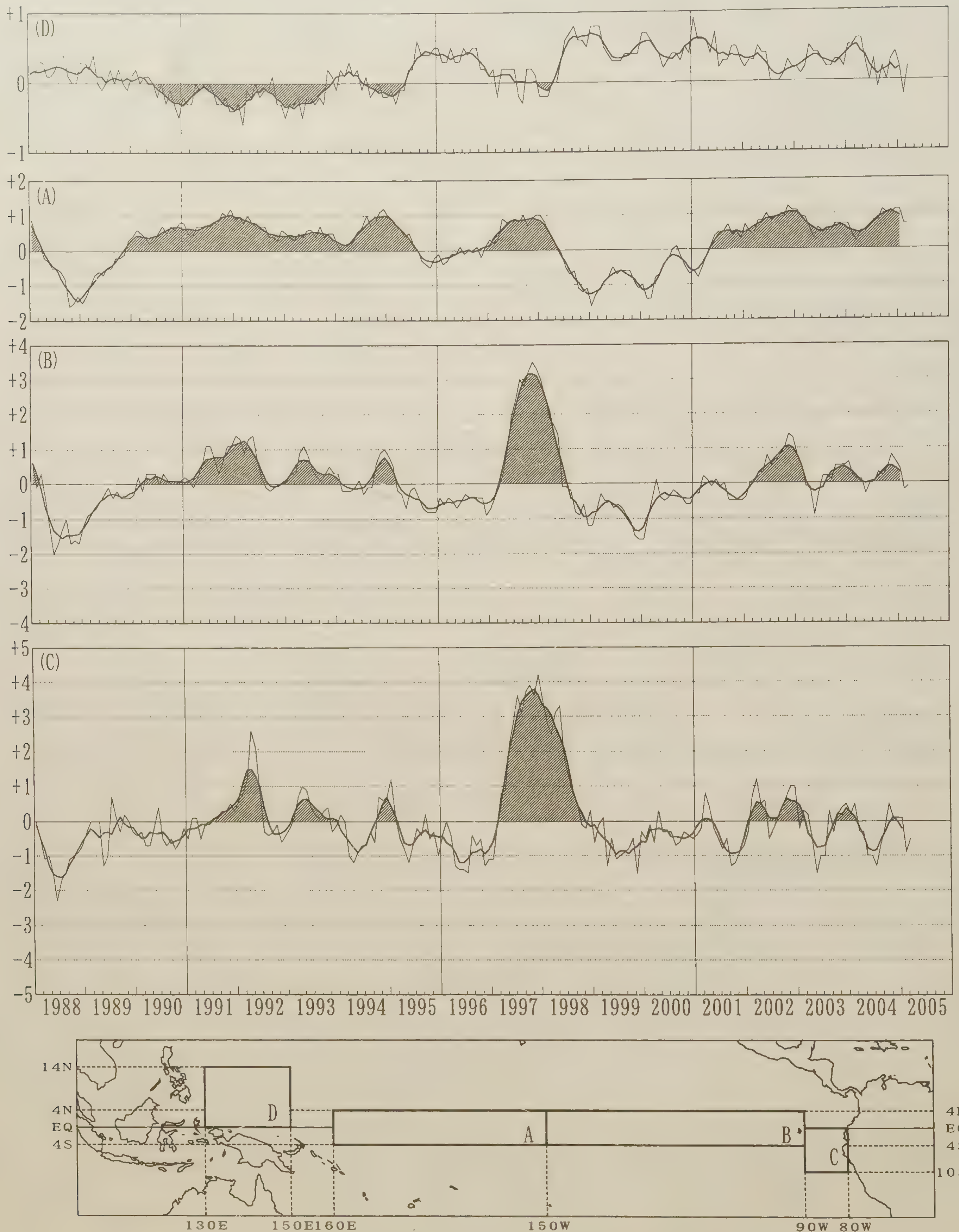




第25図 海域平均海面水温偏差の長期変動

Fig. 25 Long-term variations of monthly mean sea surface temperature anomalies (°C) for the areas shown in the right panel. Anomalies are computed from the JMA climatology (1971-2000). Thin lines show the monthly mean and thick lines their 13-month running means.

Time Series of Tropical Pacific SST Anomalies



第26図　太平洋熱帯域の海面水温偏差時系列図

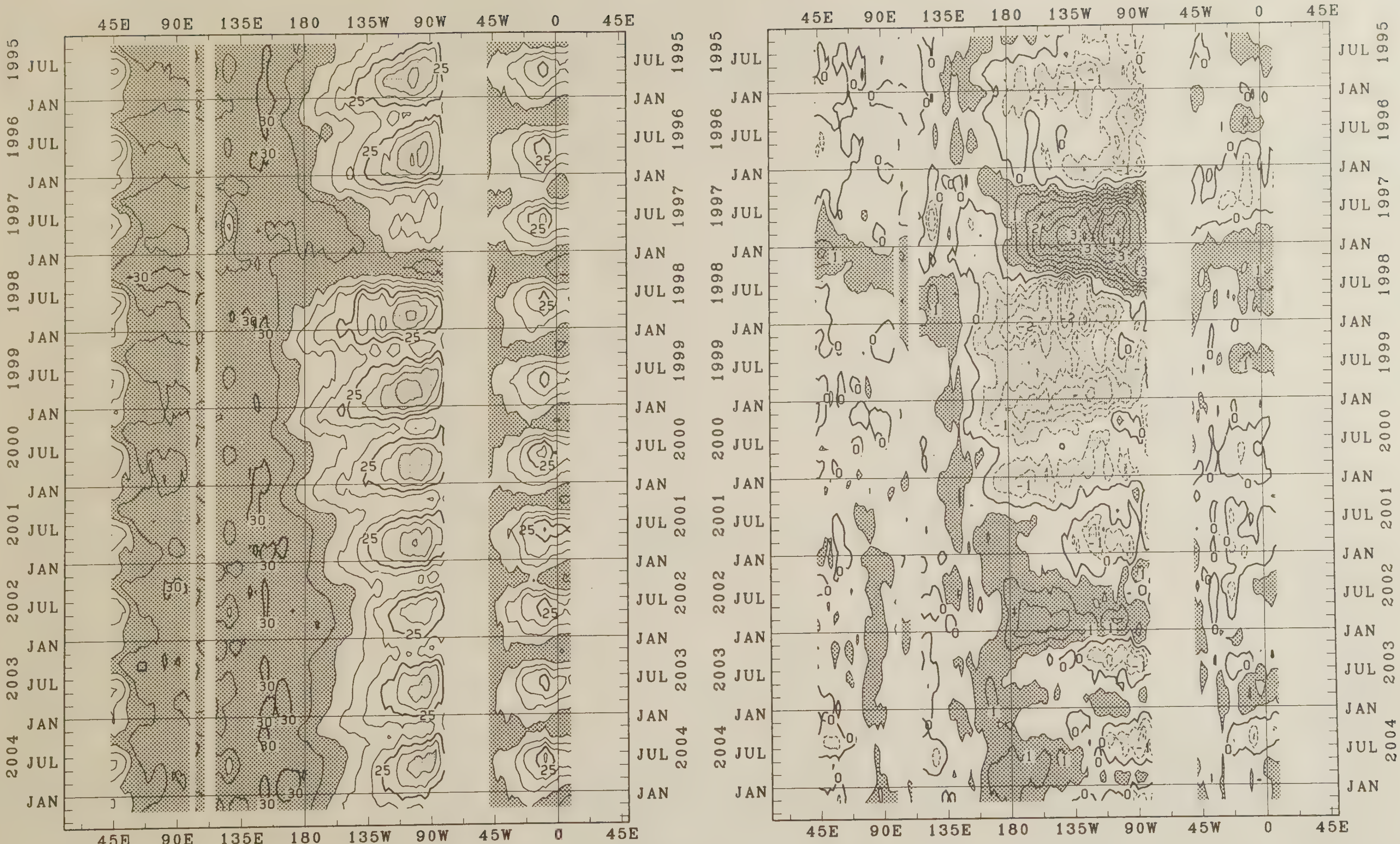
Fig. 26 Time series of monthly mean SST anomalies (°C) in the tropical Pacific Ocean for the areas indicated at the bottom panel. Thin lines show the monthly means and thick lines their 5-month running means. Positive anomalies (A, B, C) and negative anomalies (D) are shaded. Anomalies are computed from the JMA climatology (1971-2000).

Monitoring Indices in the Tropical Pacific

MONTH YEAR	REGION D 14N-EQ 130E-150E SST (°C)	Anomaly	REGION A 4N-4S 160E-150W SST (°C)	Anomaly	REGION B 4N-4S 150W-90W SST (°C)	Anomaly	REGION C EQ-10S 90W-80W SST (°C)	Anomaly	SOI	SEA LEVEL PRESSURE ANOMALY (hPa) TAHITI 17-33S 149-37W	SEA LEVEL PRESSURE ANOMALY (hPa) DARWIN 12-24S 130-52E
JAN 03	28.7	0.2	29.1	1.1	26.2	0.8	24.3	-0.2	-0.1	-0.1	0.2
FEB 03	28.4	0.1	28.9	0.9	26.8	0.5	26.3	0.3	-0.5	-1.5	-0.2
MAR 03	28.7	0.2	29.0	0.9	27.0	-0.1	26.5	0.2	-0.3	-0.2	0.5
APR 03	29.3	0.5	28.8	0.6	27.1	-0.1	24.9	-0.5	-0.1	0.5	0.8
MAY 03	29.7	0.4	28.9	0.3	26.0	-0.9	22.8	-1.5	-0.6	-0.7	0.2
JUN 03	29.8	0.4	29.1	0.6	25.9	-0.3	21.9	-1.0	-0.9	-0.9	0.4
JUL 03	29.6	0.3	29.0	0.5	25.6	0.2	20.9	-1.0	0.2	0.7	0.3
AUG 03	29.4	0.2	28.9	0.5	24.9	0.2	21.2	0.3	0.0	-0.2	-0.1
SEP 03	29.5	0.2	28.9	0.5	24.8	0.1	20.2	-0.3	-0.1	-0.3	0.0
OCT 03	29.7	0.3	29.1	0.7	25.2	0.5	21.1	0.2	-0.1	-0.5	-0.4
NOV 03	29.6	0.3	29.1	0.7	25.2	0.5	22.2	0.4	-0.2	0.0	0.4
DEC 03	29.2	0.2	28.9	0.7	25.5	0.5	23.4	0.5	1.1	0.9	-1.1
JAN 04	29.0	0.5	28.7	0.7	26.0	0.6	24.7	0.2	-1.0	-1.5	0.9
FEB 04	28.8	0.5	28.4	0.4	26.5	0.2	26.5	0.5	0.8	1.4	-0.6
MAR 04	29.1	0.6	28.3	0.2	27.2	0.1	26.0	-0.3	0.1	-0.7	-1.3
APR 04	29.4	0.6	28.7	0.5	27.3	0.1	25.1	-0.3	-1.4	-1.0	1.3
MAY 04	29.6	0.3	29.1	0.5	26.6	-0.3	23.3	-1.0	1.2	0.9	-0.7
JUN 04	29.4	0.0	29.1	0.6	26.2	0.0	21.9	-1.0	-1.1	0.1	1.7
JUL 04	29.6	0.3	29.3	0.8	25.4	0.0	20.6	-1.3	-0.6	-0.2	0.9
AUG 04	29.1	-0.1	29.2	0.8	25.0	0.3	20.2	-0.7	-0.5	-0.5	0.3
SEP 04	29.5	0.2	29.5	1.1	24.9	0.2	20.3	-0.2	-0.2	0.4	0.9
OCT 04	29.4	0.0	29.4	1.0	25.1	0.4	21.4	0.5	-0.2	0.0	0.3
NOV 04	29.6	0.3	29.4	1.0	25.5	0.8	21.9	0.1	-0.7	-0.8	0.5
DEC 04	29.4	0.4	29.3	1.1	25.6	0.6	23.0	0.1	-0.7	-1.4	-0.1
JAN 05	28.7	0.2	29.1	1.1	25.8	0.4	24.6	0.1	0.3	0.3	-0.3
FEB 05	28.1	-0.2	28.7	0.7	26.1	-0.2	25.1	-0.9	-2.2	-3.8	1.9
MAR 05	28.7	0.2	28.8	0.7	27.0	-0.1	25.8	-0.5	0.2	0.8	0.5

第1表　太平洋熱帯域の大気及び海洋の監視指数

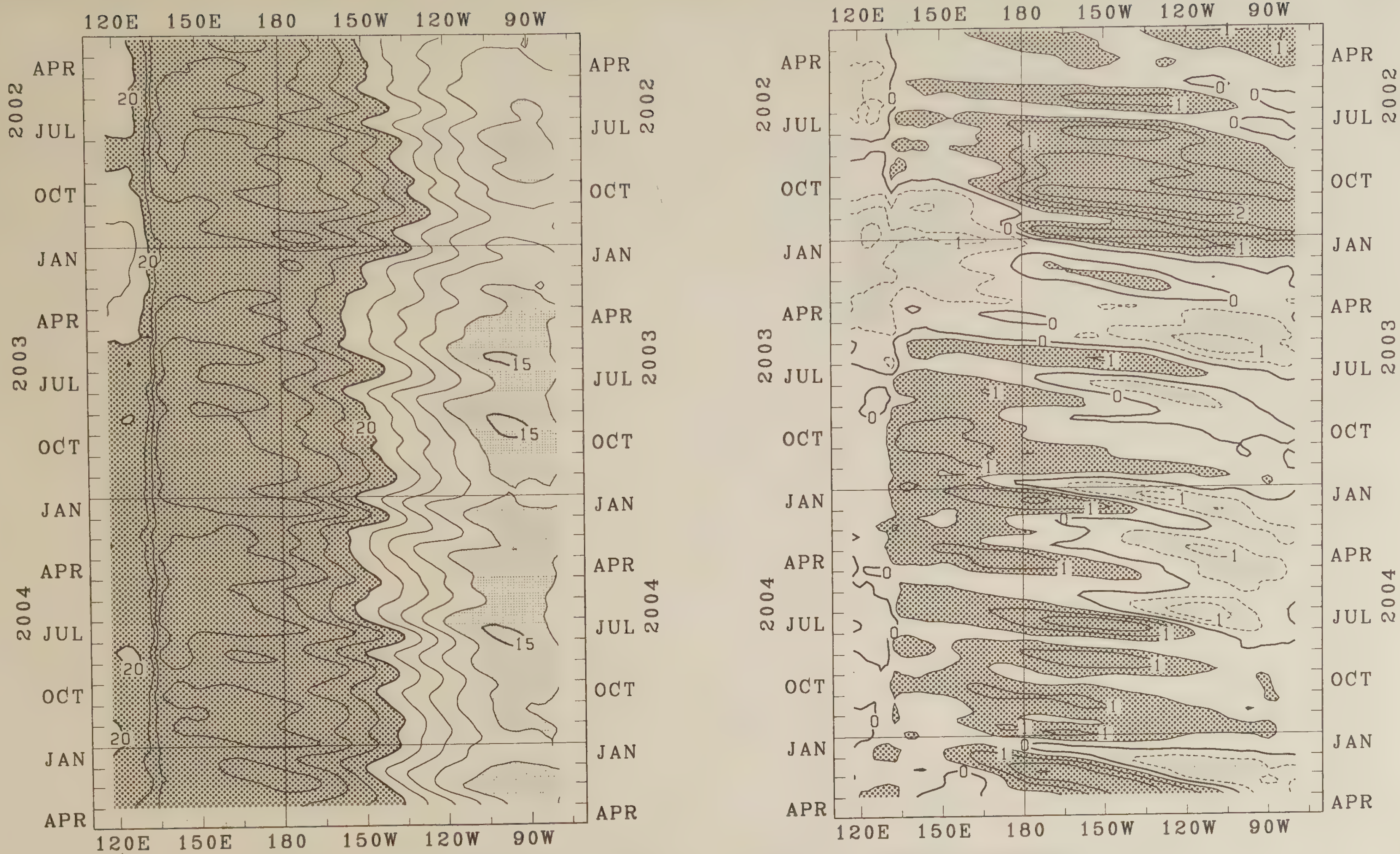
Table 1　Atmospheric and oceanic monitoring indices in the tropical Pacific Ocean



第 27 図　赤道に沿った海面水温（左）および偏差（右）の時間-経度断面図

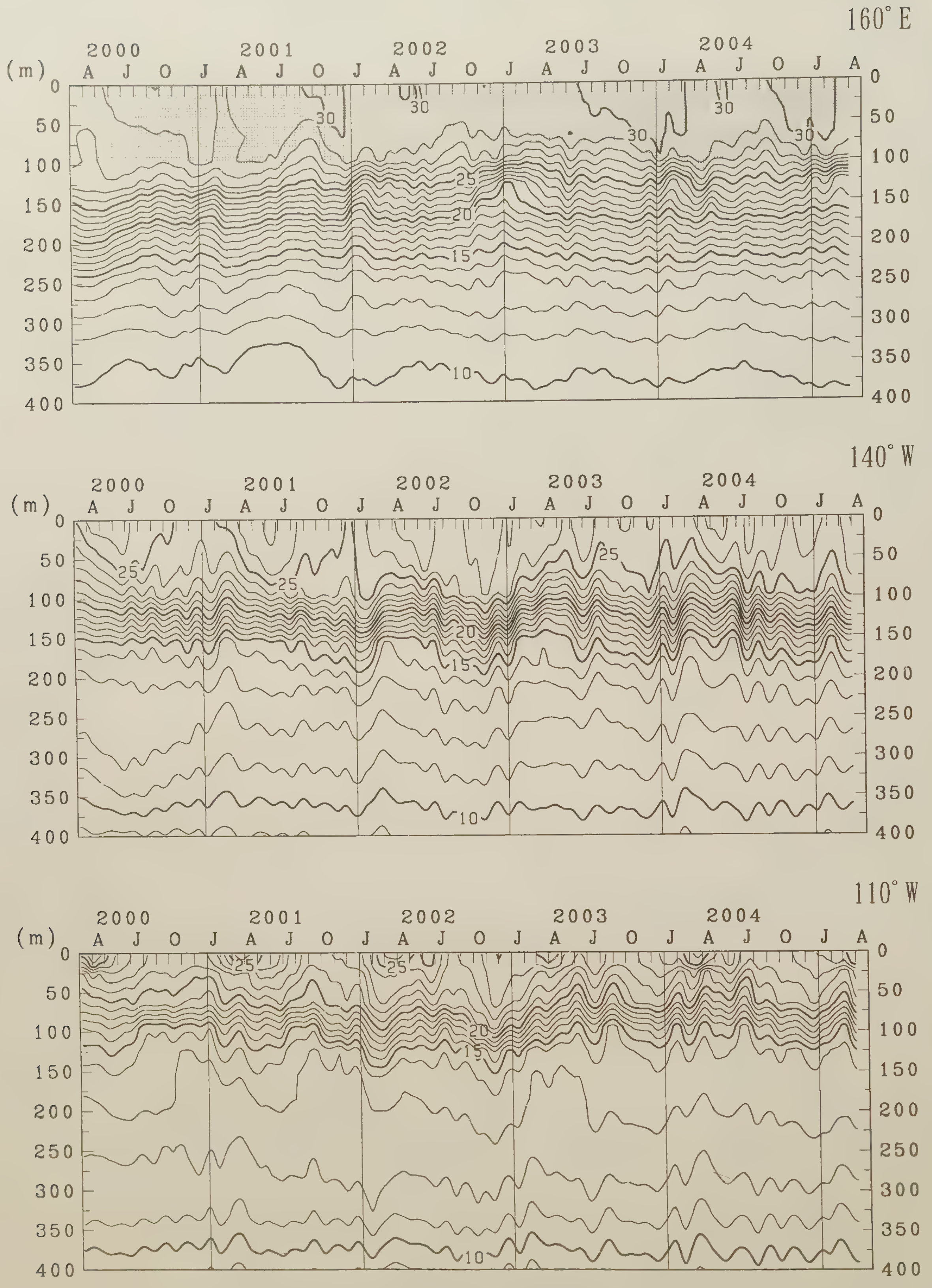
Fig. 27　Time-longitude sections of SSTs (left) and anomalies (right) along the equator (2 °N-2 °S) in the global ocean. Contour interval is 1 °C (left) and 0.5 °C (right). Values greater than 28 °C (+0.5 °C) are shaded and values less than 23 °C (-0.5 °C) are spotted in the left (right) panel. Dashed contours indicate negative anomalies in the right panel. Anomalies are computed from 1971-2000 base period means.

Time-Longitude Sections of Ocean Heat Content & Anomalies (Eq.)



第28図　太平洋の赤道に沿う海洋表層の貯熱量（左）及び偏差（右）の時間－経度断面図

Fig. 28 Time-longitude sections of ocean heat content in the upper 260 m along the equator (left) and anomalies (right) in the Pacific Ocean. Data are derived from the Ocean Data Assimilation System of JMA. Contour interval is 1°C (left) and 0.5°C (right). Values greater than 20°C (+0.5°C) are shaded and values less than 16°C (−0.5°C) are spotted in the left (right) panel. Dashed contours indicate negative anomalies in the right panel. Anomalies are computed from 1987-2004 base period means.



第29図　太平洋赤道域の表層水温の時間－深度断面図

（上：西部、中：中部、下：東部）

Fig. 29 Time-depth sections of equatorial subsurface temperature for the western Pacific (top, 160°E), the central Pacific (middle, 140°W) and the eastern Pacific (bottom, 110°W). Data are derived from the Ocean Data Assimilation System of JMA. Contour interval is 1°C. Values greater than 28°C are shaded.

Sea Ice



第30-1図　北極域の海氷図（2005年 3月14日）

Fig.30-1 Sea ice chart in the Arctic on 14 Mar. 2005.

The shaded area represents the sea ice extent. The dotted line denotes the mean ice edge averaged for the period from 1972 through 1990.

The data source is the National Ice Center (USA).

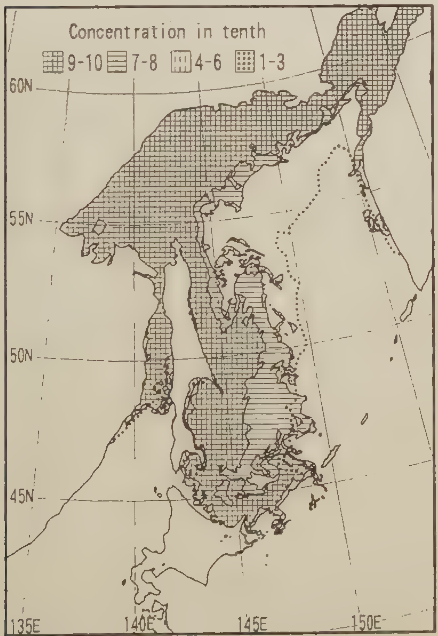


第30-2図　南極域の海氷図（2005年 3月14日）

Fig.30-2 Sea ice chart in the Antarctic on 14 Mar. 2005.

The shaded area represents the sea ice extent. The dotted line denotes the mean ice edge averaged for the period from 1973 through 1990.

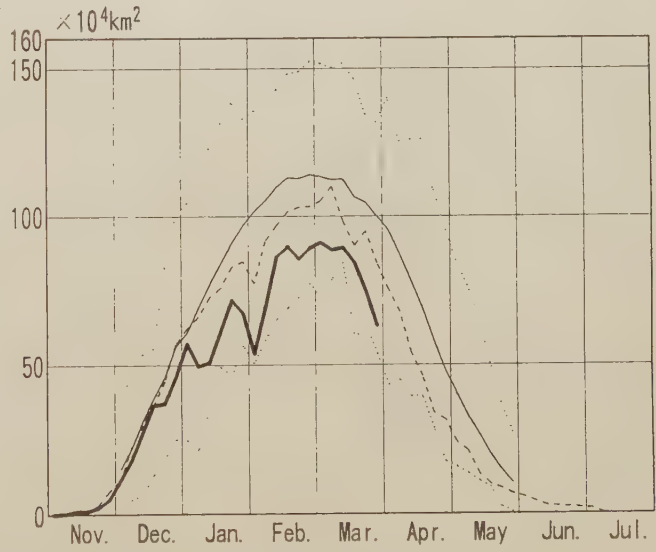
The data source is the National Ice Center (USA).



第30-3図 オホーツク海の海氷図（2005年 3月15日）

Fig.30-3 Sea ice chart in the Sea of Okhotsk on 15 Mar. 2005.

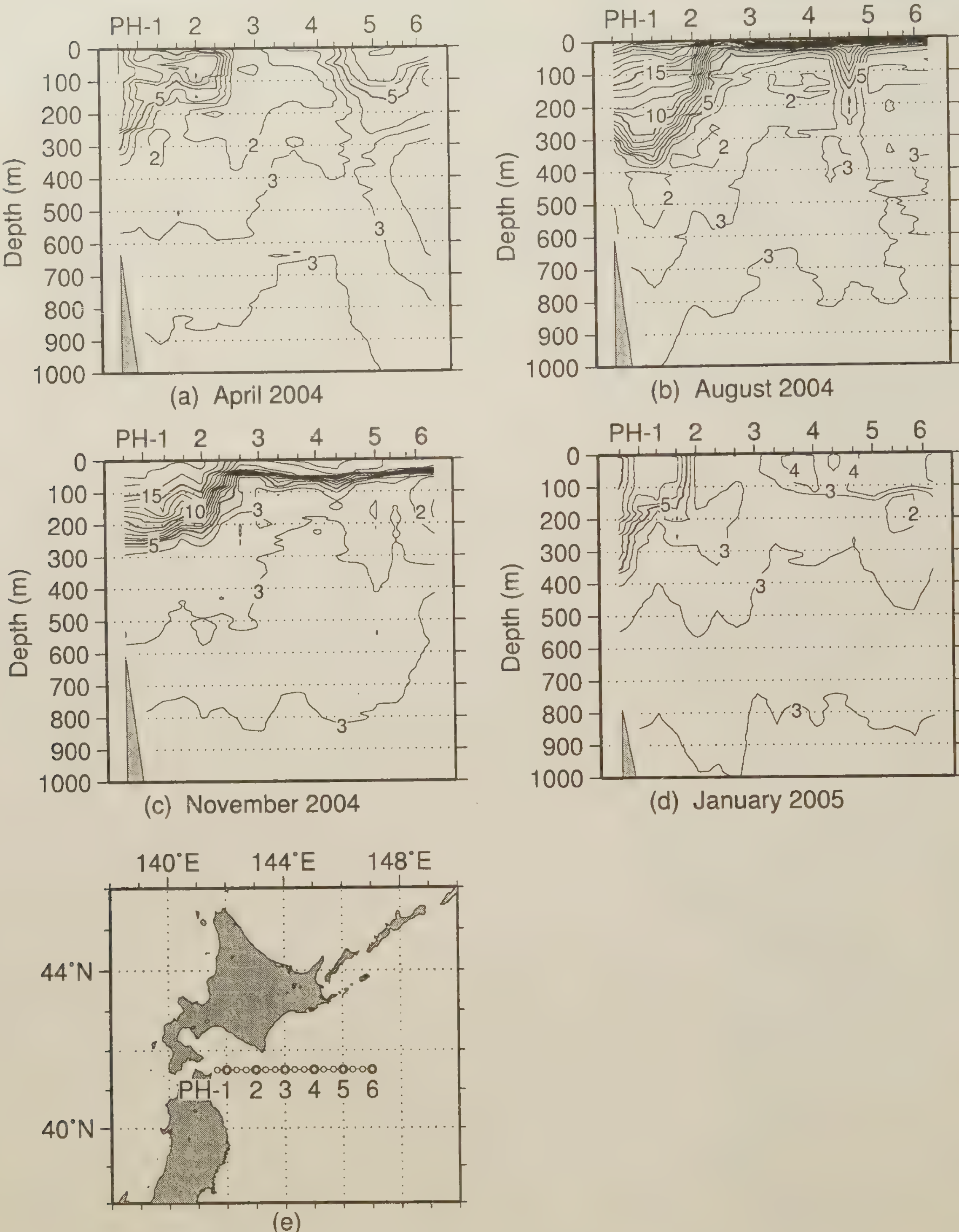
The dotted line denotes the mean ice edge averaged for the period from 1971 through 2000.



第30-4図 オホーツク海の海氷域面積

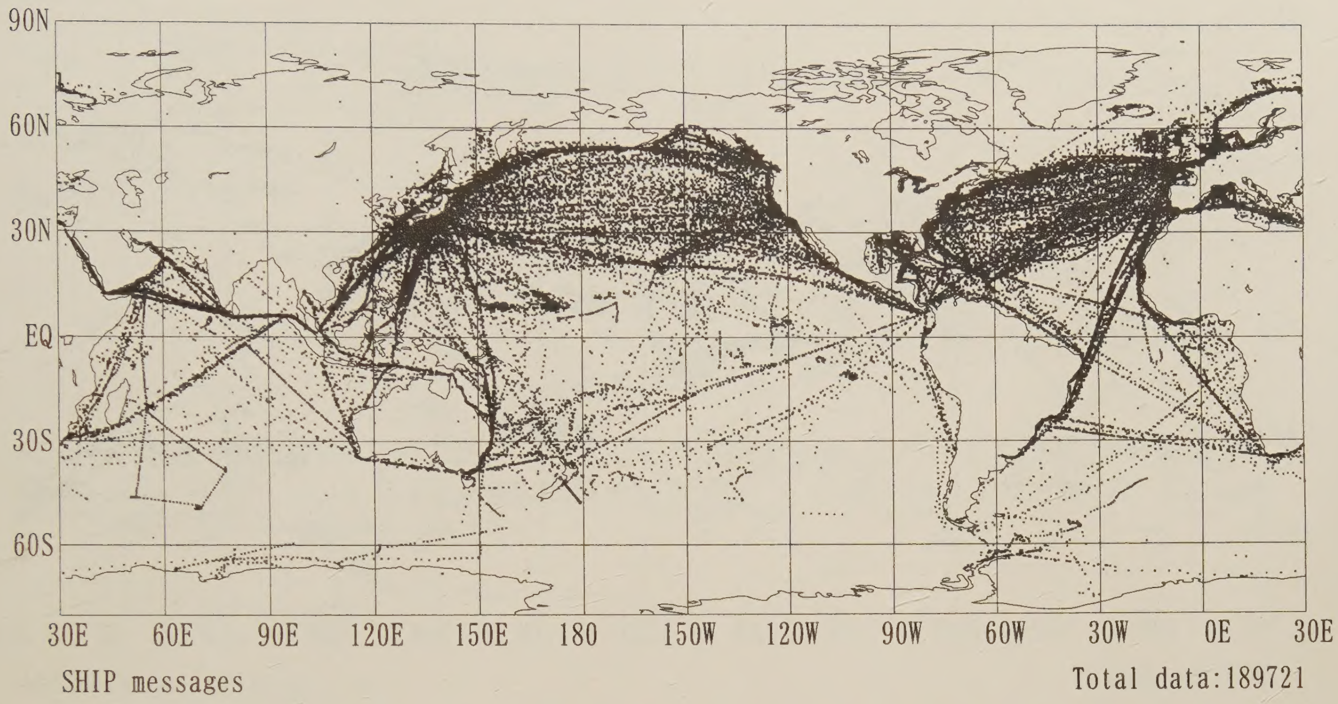
Fig.30-4 Time series of 5-day sea ice area in the Sea of Okhotsk.

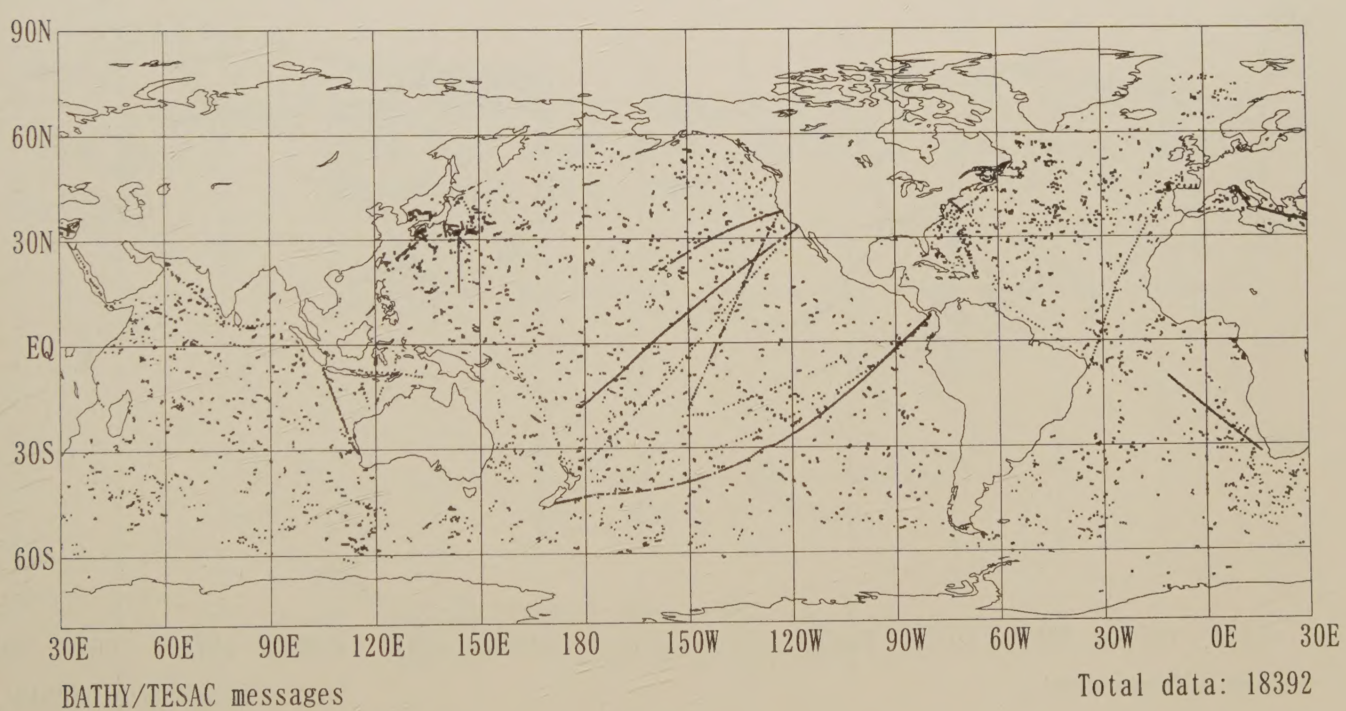
: current season (2004/2005)
: mean extent (1971-2000)
: maximum or minimum extent (1971-2004)
: last season (2003/2004)



第31図 函館海洋気象台高風丸および舞鶴海洋気象台清風丸によるPH線に沿った水温断面図.
(a) 2004年 4月, (b) 2004年 8月, (c) 2004年11月, (d) 2005年 1月, (e) PH 線の位置図.

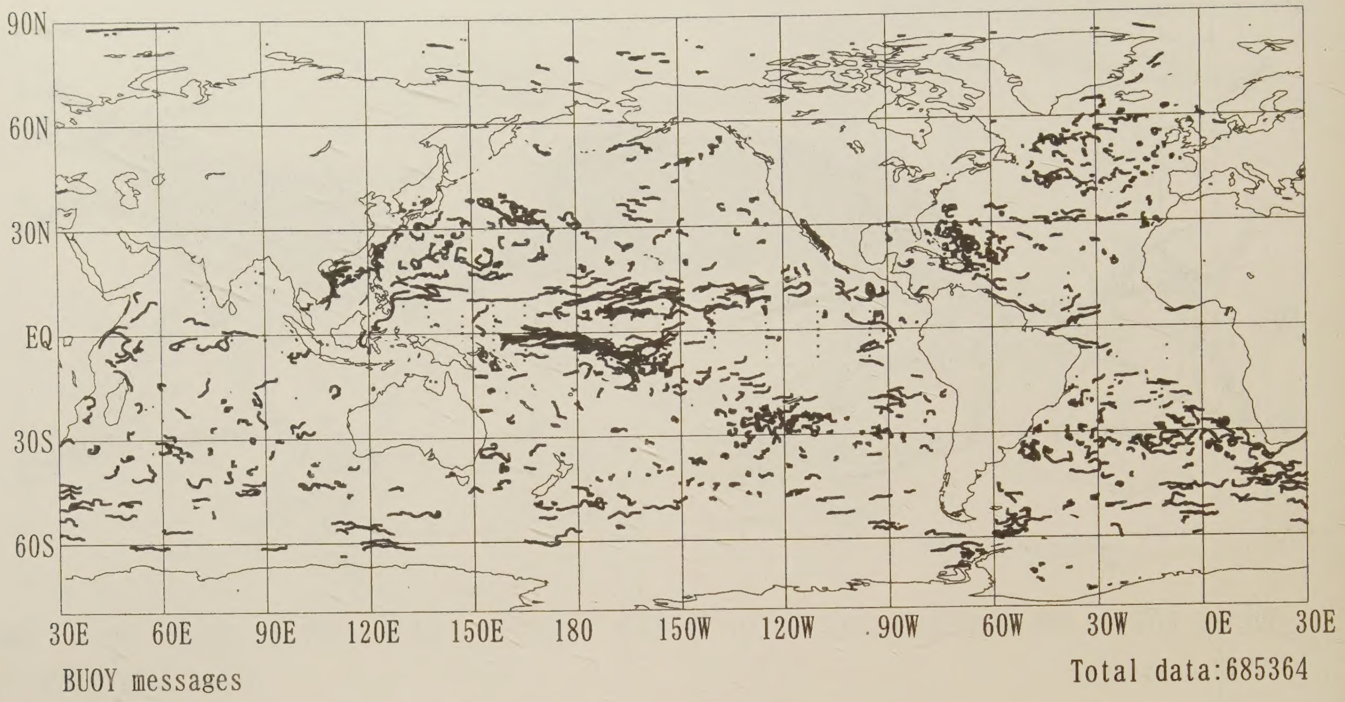
Fig. 31 Vertical sections of temperature (°C) along the PH line observed by R/V Kofu maru of Hakodate Marine Observatory and R/V Seifu maru of Maizuru Marine Observatory. (a) April 2004, (b) August 2004, (c) November 2004, (d) January 2005 and (e) location of the PH line.

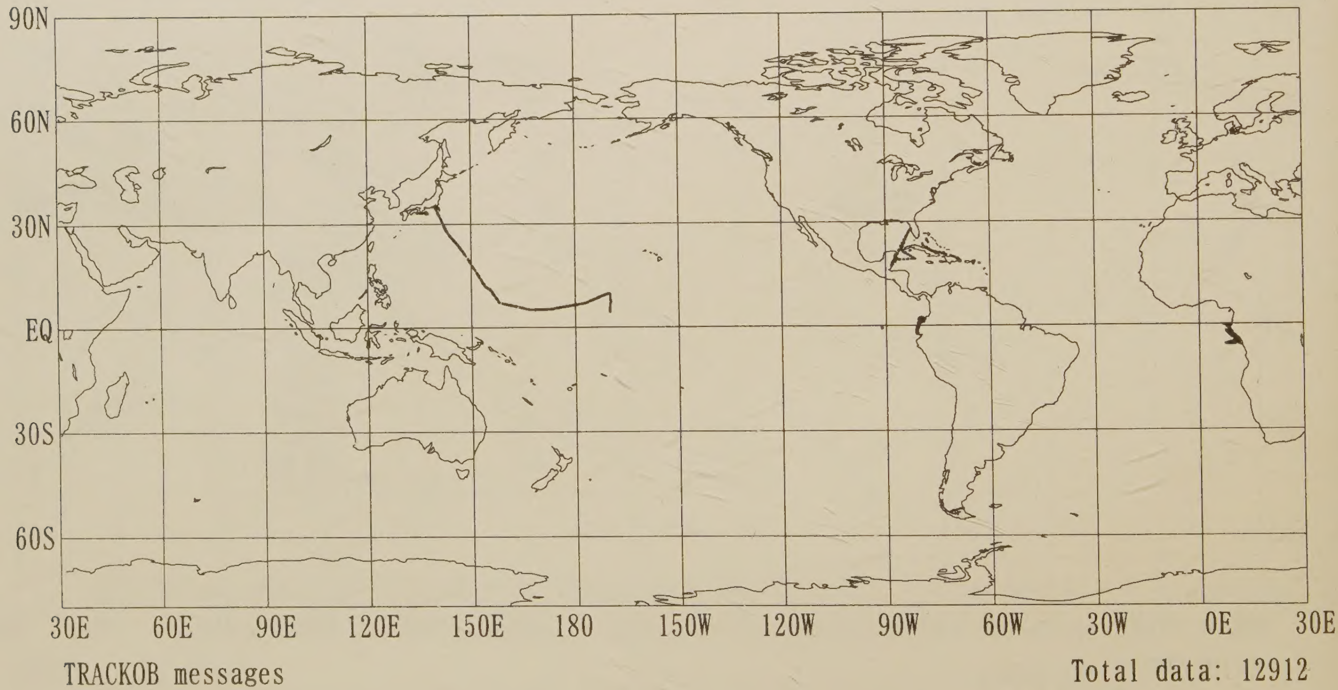




第32-1図　測点分布図(2005年 3月)

Fig. 32-1 Geographical distribution of SHIP messages (top) and BATHY/TESAC messages (bottom) for March 2005.





第32-2図　測点分布図(2005年 3月)

Fig. 32-2 Geographical distribution of BUOY messages (top) and TRACKOB messages (bottom) for March 2005.

気 象 庁 海 洋 月 報

Monthly Ocean Report

March 2005 (No. 147)

本月報掲載の 2005 年 3 月のプロダクトには、気象庁が観測したデータ及び GTS（全球気象通信網）を通じて入手した国際気象通報式による通報のほか、下記の機関等から提供いただいたデータを使用しています。御礼申し上げます。

防衛庁、海上保安庁

水産総合研究センター

海洋研究開発機構、宇宙航空研究開発機構

東京大学

水産試験場等（北海道、青森県、岩手県、宮城県、秋田県、山形県、福島県、茨城県、東京都、新潟県、石川県、福井県、静岡県、三重県、京都府、兵庫県、和歌山県、鳥取県、山口県、佐賀県、宮崎県、沖縄県）

（順不同）

平成１７年４月２０日発行

編集兼発行者　気　象　庁
東京都千代田区大手町１－３－４

印刷所　有限会社　進英プリント
東京都渋谷区代々木 1-38-19